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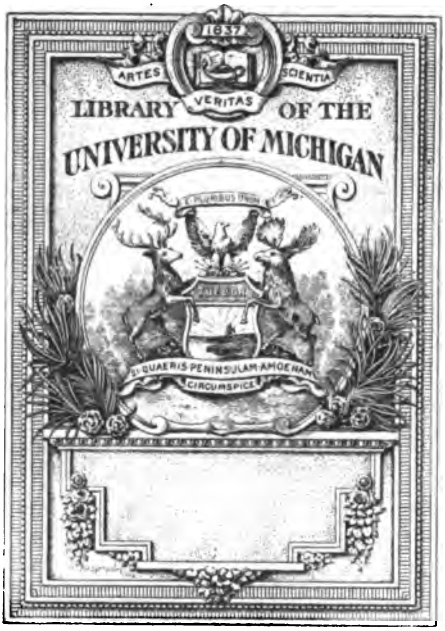
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EXTERNAL PERINEAL URETHROTOMY.

A paper read before the Ohio State Medical Society, June 14th, 1882.

By P. S. CONNER, MD.,
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Two facts are familiar to us all:—1st, that urethral strictures are of common occurrence; 2nd, that they are not only troublesome, but dangerous; because of the vesical and renal diseases consequent upon their presence, and the disastrous results of the frequently occurring extravasations of which they are the indirect cause. When the diminution of the calibre of the urethral canal is not so great but that a moderate sized bougie, say No. 4 or 6 French, can be readily passed, and the stricture is located behind the peno-scrotal angle, the treatment may be by dilatation, divulsion or division, according to the preferences of the operator, and the time that can be devoted to the care of the individual case, the first mentioned method being the safer but the more tedious. But in the unfortunately not seldom met with cases in which from ignorance or neglect the contraction has been permitted to go on until only a very small even a filiform bougie can be worked through, and that with difficulty; when over-exercise, exposure, excess, or a slight change in the constitution of the urine will suffice to render the stricture impermeable, and cause complete retention, in such cases the propriety of freely laying open from without the affected portion of the canal becomes a question worthy of and demanding the most serious consideration. Gradual dilatation requires time, carefulness and skill, and during the earlier periods the patient is, of necessity, exposed to the risks of urinary retention, of urethral rupture behind the stricture, and of increased disease of the bladder and kidney. A certain amount of enlargement of the calibre of the canal will, as a rule, be required before divulsion can be made by those not especially skilled; for though the use of a filiform guide may enable the surgeon to force the divulsor through the narrowed portion of the urethra, yet if such guide is only fastened on the extremity of the instrument, the latter may be, and has been in many cases that have never been reported, driven through the urethral wall, and if passed through a tunnelled end may, as I have myself known to occur, be cut off, leaving a foreign body in the urethra, the exraction of which is not easy. And further, divulsion though usually a safe method of operating, is one by no means devoid of danger, as it may be the exciting cause of sudden, complete and fatal suppression of urine. In one of my own cases in which the bursting of the stricture was easily made, kidney-action was almost absolutely arrested and death occurred within seventy-two hours.

Internal section, which is undoubtedly the proper treatment for penile strictures, may, when the contraction is located in the immediate vicinity of the anterior face of the triangular ligament, be followed by septicæmia, and is often the cause of troublesome and at times dangerous hemorrhages. And here again, some dilatation will ordinarily be required to be made before the cutting instrument is used. Division from without has long been, and is still by some of the best surgeons of the world, regarded as a procedure applicable only to cases in which there has just occurred an extravasation from rupture, those in which fistulæ are present, or when the stricture is impermeable, or of traumatic origin, and therefore liable to early recontraction; it being held that if any instrument, be it never so small, can be carried through, no external cutting should be done, such section being dangerous to life and liable to leave behind such "deplorable conditions" and "lamentable states" in the way of fistulous openings as were so graphically described and pictorially illustrated by Lizars thirty years ago.

But there can be no special danger to life in a clean cut through the middle line of the perineum of such extent as to permit of the ready outflow of the urine. Patients die after external perineal urethrotomy; but not so very often. Of my own cases, and though I have kept no record of them, I think they must number nearly if not quite fifty, perhaps more, only one that I can now recall has proved fatal; and death in this case was due, not to the operation itself, but to the pre-existing disease of the bladder and kidney; and the same is true of the vast majority of the fatal cases. Incomplete closure of the cut will undoubtedly occasionally take place, but, except when the operation has been made through the diseased tissues of an already fistula—riddled perineum, a second and limited division will usually secure a satisfactory result. Not only will the patient derive great comfort from the immediate removal of the obstruction to the out-flow of urine, which it is impossible for him to have when gradual dilatation is resorted to; but in such removal lies the most potent means of stopping the progress of and producing the relief of the chronic cystitis, which in greater or less degree is always present in these cases of long standing tight strictures. Confinement to bed for three or four weeks, however objectionable it may be in itself, is a matter of little importance, if the operation which necessitates it puts the patient in the way of safely and, indeed, quickly recovering from a dangerous condition; and if, as certainly is the case, the enforced quietude has a beneficial influence upon the existing inflammation of the bladder. If a guide, no matter how small, can be carried through the canal, external perineal urethrotomy is an operation that any one can perform who is competent to treat a stricture at all. The more skilled the surgeon the more quickly and easily he can make the section, but carefulness and knowledge of the region involved is all that is indispensably necessary. It is a matter of little importance whether ten minutes or an hour is occupied in the division, while it is of the highest necessity that the operator keep to the line of the urethra and do not diverge to either side, and this he can readily do if opening into the uncontracted canal in front of the stricture he follows with the knife the easily seen guide. If no director can be introduced, the difficulties of the operation are vastly increased, and it may be, and often is, absolutely impossible to make the division along the course of the urethra, displaced as it is by the irregular thickening of the parts around.

Even the most skillful of operators may fail under such circumstances of finding the opening into the posterior part of the canal; but generally the fullness of the urine-distended urethra will furnish the needed indication, or the finger will be able to feel the opening in the anterior face of the triangular ligament. Even if the operation must be left unfinished, and the catheter cannot be introduced, the section may yet prove of service, the urine finding its way out in larger stream and with much more ease to the patient. It is in these very cases of practically impermeable strictures that troublesome and tedious as it may be, the performance of the external section affords the readiest way out of the difficulties of the situation. The oft-quoted declaration of Syme and Liston that where urine can find its way out an instrument can find its way in, is true and yet not true,—true in theory not true in practice. Aspiration of the bladder will not seldom be found to be followed by such lessening of the congestion of the urethra and relaxation of its walls as that in a day or two, or more, at least a fine whalebone bougie can be introduced and external division of the stricture readily made. Of the subcutaneous operation of Teevan, I have had no experience, but am hardly prepared to see it in any special advantages over dilatation on the one hand or free division of the perineum on the other, according to the nature of the case. In the after treatment of the cases of external urethrotomy I have never made use of a permanently retained catheter, but have preferred the daily introduction of the sound, beginning usually on the third or fourth day, though in a few cases I have left the urethra undisturbed for as long as a week without detriment to the patient. Of course, after external section, as after dilatation or an internal operation, bursting or cutting, the sound should be passed at regular periods, of from a week to a month, during the after life of the individual. That the neglect of such after treatment is at times followed by no bad results cannot be questioned, but it is to be remembered that exceptions only prove rules. In conclusion I would only express the belief, that some little experience has brought me to, that in those cases of tight stricture in which dilatation must evidently be a slow process, and in which there is a very considerable amount of vesical disease, division of the contracted part of the canal through the perineum secures a better result, local and general, than any other method of treatment.

CASE OF PSEUDARTHROSIS.

By Davis Halderman, M. D.
Professor of Surgery in Starling Medical College.

The subject of this anomaly was a man thirty-four years of age, and when he came under my observation was suffering from pulmonary consumption in its latter stages, of which he soon afterward died.

The false articulation was situated in the left ulna, a few inches below the elbow joint, and was associated with an ancient luxation of the head of the corresponding radius forwards, accompanied with two inches shortening of the forearm. The account the patient gave of himself was that some eight years before, he was thrown from a vehicle, resulting in fracture of the bone just named, and dislocation of the elbow joint. He further stated that this limb was badly bruised and "all doubled up" by the accident; and that the attending physicians advised its amputation, but that he refused to submit to the operation. In addition to the shortening just mentioned, the displaced end of the radius jutted upwards and outwards from the side of the elbow in a lofty manner. It was covered merely by the integument, which it carried, as it were, before it, and by which it was closely embraced, so that its head, neck, etc., could be distinctly seen, as well as felt, presenting, indeed, a curious, if not a repulsive sight, as the bone rolled beneath its thin covering, projecting now in this, and then in that direction, in the various movements of the joint. Nor were these merely restored to their natural condition; for besides the ordinary range of flexion and extension, there was quite a degree of lateral motion and circumduction—in fact the limb was capable, by the aid of the adventitious joint, of undergoing a flail-like evolution that was truly wonderful, the patient was by occupation an auctioneer, and had doubtless, after his injury, acquired this unique use of his arm, through the habit of energetic gesticulating, so characteristic of persons of his class in the discharge of their duties.

As with motion, so with strength, it, too, was well nigh restored. For, although the biceps, by reason of the displacement of its lever (the radius) especially the fulcrum thereof, was considerably crippled, the brachialis anticus had, it seems, become prematurely developed, while at the same time, the two inches shortening of its lever (the ulna) had the effect of by so much enhancing its power.

Appearances Revealed Postmortem.—As to the mechanism of the false joint itself, it was essentially that of an enarthrodial. Its osseous factor was in three parts, an upper, a lower, and a middle or posterior; the latter, small and flat, formed a patella-like covering at this place. All these pieces were bound firmly together by a well formed capsular ligament, as strong nearly as that of the hip-joint, having a smooth glossy inner surface, while the articular aspect of the bones presented a distinct cartilaginous coating; the whole being lubricated by synovial-like secretion.

In addition to the aforesaid capsule the fascial expansion of the triceps tendon covered this part of the new joint, and served as a stay to it. The posterior or patella-shaped piece of bone spoken of, was also held by it somewhat after the fashion that the knee-pan is by the tendon of the quadriceps extensor cruris; hence the resemblance alluded to.

The fracture had been evidently very oblique, from above downwards, and from before backwards, as the provisional joint measured two inches in this direction, and the lower fragment rested in front of, and still overlapped slightly the upper. But this was far from sufficient to occasion the amount of shortening (two inches) of the forearm; which consequently could only be accounted for upon the score of the so-called ulcerative absorption of bone, that must have taken place in the formation of the new joint.

Strange to say, the head of the displaced radius had formed for itself no trace of arthritic connections. Its articular cartilage had merely contracted slight adhesions to the subcutaneous cellular tissue, that could be easily separated by means of the finger nail alone. The dislocated bone simply rested at a point corresponding with its biceps tubercle, upon the outer epicondyle of the humerus; whilst its head, in the various movements of the fore-arm, swept, as it were, around this, as its centre of motion; covered, as already observed, by the integument only, which it at the same time carried before it. The articular cartilage of the capitellum of the humerus remained intact; its only change being a partial loss of luster, similar to that of the cornea after death. The ligaments about it were reduced to a mere connective tissue covering of it. This, so far as the former at least is concerned, is contrary to the recognized course of morbid changes, after injuries of this sort, as will appear from the following upon the subject, page 21, vol. 2, of Agnew's very excellent work; "Wherever the head of the displaced bone rests, it produces for itself a cavity designed to supply the place of the old one. If it lies on a muscle, tendon or fascia, there will be a rapid formation of condensed connective tissue, which assumes a cup shape; if it lies against a bone, a cavity will be developed, partly by absorption, and partly by a new deposit of osseous matter, the latter rising from the surface and forming a socket not unlike the original one, with an eburnated instead of a cartilaginous surface." Nevertheless, this furnishes but another example of the wonderful conservation of the economy, in such apparently dire contingencies,—wherein namely, a comminuted fracture of one of the main bones of an extremity, and luxation of the other, involving one of the most complicated and vulnerable joints of the body, attended at the same time with great displacement and shortening, which latter conditions for some reasons remained unreduced, and wherein, moreover, from all accounts, although no solution of integument existed, there was othetwise extensive contusion and laceration of the soft parts, suggesting the necessity of immediate amputation.—and yet the functions of the injured limb were, notwithstanding the failure of bony union, essentially restored, despite the dyscrasia the patient at the time in all probability was laboring under, and that afterward carried him off.

INTERESTING RESULTS ATTENDING THE ALMOST SIMULTANEOUS USE OF ANIMAL AND HUMANIZED VACCINE VIRUS.

By J. L. Cilley, M.D.,

We had occasion, recently, to vaccinate six persons, at one sitting, where all had been exposed to the infection of small-pox, from a member of the family, during the entire stage of invasion.

Well-marked symptoms had characterized the case from the first, but the nature of the ailment was not recognized nor suspicioned, until the eruption appeared.

Medical aid was then summoned, and the usual steps taken, to prevent, if possible, the occurrence of any more cases in the family.

The sick one was isolated, and the double precaution of vaccinating, with humanized and animal virus, resolved upon.

The latter kind was used first, and forty-two hours subsequently, the former, for fear failure might attend the insertion of the bovine, The fact, that an interval of forty-two hours intervened between the two efforts, makes the results interesting.

The victim of small-pox was the father, 48 years old, who had not been vaccinated since childhood, but the balance of the family had been cared for, as regards revaccination.

The attempt to vaccinate was attended with results, which were entirely negative in three of the six persons.

In the other three, the scarifications resulted peculiarly. In one individual, a successful result followed the use of the humanized virus; in another, that of the bovine, while in the third, both attempts succeeded.

The last mentioned condition was noticed in the youngest child, a lad nine years old, who had been successfutly vaccinated, only four years previously, with humanized lymph.

In the mother, who had not been vaccinated for an indefinite period, the use of the bovine virus, was followed with good results, while in the case of the youngest daughter, a couple of years older than the lad, on whose arm two good cicatrices were displayed, the humanized virus resulted favorably.

Reports of Societies.

CINCINNATI MEDICAL SOCIETY.

Meeting of June 13, 1882.

GUSTAV BRÜHL, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

Discussion of Dr. Taylor's Paper Continued.

Dr. Comegys said the mere prescribing of remedies is a low form of medical art. This thought was suggested by the great variety of curative means for eclampsia mentioned during this discussion. There is no doubt of the successful treatment by bleeding, but it has usually been associated with opium. Bleeding has also been successful in other forms of convulsions. The speaker had treated with marked success a case of violent epileptic convulsions by the lancet giving chloroform as well. Now comes pilocarpin and the hot bath, and diuretics and narcotics, all successful, and each with its advocates. But we must come to the pathological condition for a reason for using each of these remedies. The mere giving of remedies is a degrading form of practice when we do not know the pathological action against which we are contending. Dr. Tate says œdema is not the cause, for œdema is not always present. We must go further back and seek the cause of the œdema. We may have œdema from pressure, we may have paralysis or paresis from the same cause. A plethoric woman is bled and relieved of convulsions; withdrawing a portion of blood relieves the pressure on the vessels and overcomes the stasis in the nerve centres. Dr. Jones, of Georgia, has shown that in eclampsia the circulation is impaired in its completion. He induced pericarditis in the horse and found that as soon as the inflammation was established the circulation in the remote vessels was affected. The relief obtained in eclampsia by withdrawing blood from the turgid vessels is just as well obtained by reducing the amount of serum by diuretics.

The cause of the convulsions seems to be the interruption of the vital chemistry in the nerve centres. This interruption is brought about by pressure retarding the blood-current, preventing its access to or escape from the nervous centres. Or anemia impairing the muscular power of the heart leads to stasis in the nerve centres and the uneliminated carbon and nitrogen acting as irritants produce this explosion called convulsions.

Dr. W. H. Taylor said that Trousseau had long ago asked the same question as that of Dr. Comegys, and his investigation led to the same answer. Kussmaul and Tenner made experiments which led to the conclusion that epileptiform convulsions were the result of anemia of the brain.

Lichell defines the cause of convulsions as deficient nutrition of the ultimate cells of the brain from anemia.

The most important matter in the treatment of eclampsia is diagnosis. Lusk says, in speaking of eclampsia, he does not refer to cerebral disorders. Another authority defines a puerperal convulsion as one occurring in the puerperal state and associated with disorder of the kidneys. F. Schanta has recently examined the histories of convulsions in Vienna Obstetrical Hospital (Prof. Spæth) from 1834 to 1880, giving details of 342 cases and 116 deaths. With reference to the classification based on lesions found post-mortem, he says "not rarely cases are found which admit of no other explanation than Nothnagel's definition of 'acute epilepsy.'" Those cases which are the effect of excited nervous condition are ruled out of this discussion; apoplexy is also ruled out. These are not cases of eclampsia. The subject of the paper is those cases associated with disorder of the kidneys. The speaker agreed with Dr. Tate as to the propriety of bleeding in the apoplectiform convulsions. He believed he had seen women saved from death by such a course. The condition is the same and the case would be called apoplexy if pregnancy was not present.

Anemia of nerve centres may be produced by œdema within the cranium, the effused serum forcing the blood out of the vessels. Bleeding will take off the pressure from the vessels and allow absorption of this effused serum. A vessel filled to distension will not absorb serum from the contiguous cellular tissue, while one only partially filled readily does so.

Dr. Tate did not see how disease of the kidney could be cured by diaphoresis. The speaker did not contend that it will cure but that it will relieve from pressure and allow the kidney to resume its function. Blood-letting relieves temporarily by taking the tension off the vessels. But the blood is below par and you can reduce it still lower by the loss of corpuscles and other essential elements, thus leaving the patient in a condition inviting a return of convulsions. Therefore bleeding is hazardous in renal cases.

By diaphoresis you take away only the serum, reducing the quantity of blood without lowering its quality, relieving the pressure without taking away the patient's defense against a return of convulsions.

Again Dr. Tate objects that the hot bath is slow in producing its effects, and that the results of the treatment could be attributed as much to the anodynes used in connection as to the bath. This, the speaker thought, was only a misunderstanding on the Doctor's part. The paper stated that the hot bath is only part of the treatment. Diaphoresis by the bath is the treatment for the condition that produces the convulsions. For the immediate control of the convulsion itself the chloral is used.

As to the morphia treatment, the speaker was inclined to think the place for that is in those cases called "acute epilepsy."

Again, Dr. Tate thinks the treatment by the bath and chloral requires too long a time to produce its effect. That is simply a failure of his memory, for the reports state distinctly that the disposition to convulsions was removed at once, and if Bright's disease did continue for a week or two it was a decided success to overcome it even in that time.

As to the difficulty of procuring the hot bath in private practice, that is easily overcome by using blankets saturated with hot water and the hot pack afterwards.

The speaker had seen two cases of eclampsia since the last meeting and tried the treatment with good results in one case, the other died in eighteen hours.

Dr. Brühl said he had observed a sort of epidemic appearance of puerperal eclampsia, *i.e.*, proportionally many cases in rapid succession, and after that not a single one for a long time, indicating that some factor, hitherto not thought of, plays an important part in producing the convulsions. Indeed the etiology of eclampsia has not been satisfactorily solved, and it will therefore be safe to consider it either as not a disease *per se*, but like dropsy and hæmoptysis, as a mere symptom of several distinct pathological processes, or with Speigelberg, to regard that only as an instance of true eclampsia which is caused by uræmic intoxication in consequence of insufficient renal secretion, excluding all cases where the kidneys are in a healthy condition.

As to the treatment, the Doctor was very favorably impressed with the good results obtained by the hot bath and chloral injections. Whilst the mortality generally reaches 29—30 per cent., out of the six cases reported in the essay only one died. Indeed the treatment recommended meets all the necessary indications in restoring .to the kidneys their function, in reducing the hydræmic condition of the blood, in relieving the increased vascular tension and controlling the convulsive action of the muscles.

The objection raised by one of the gentlemen to the hot bath on account of its impracticability in private practice is not admissible, as the wet pack and the wrapping up of the patient in warm blankets may be substituted for it. The only object aimed at being to promote profuse diaphoresis. Theoretically the hypodermic administration of pilocarpine may answer the same purpose, but, whilst a number of well known obstetricians have reported favorable results from its use, others have condemned it on account of its liability to enfeeble the action of the heart and cause suffocation in consequence of the accumulation of mucus in the bronchi. The Doctor has had no experience with this drug. Methodical experiments are now being made at Brussels but so far the results have not been stated.

In the treatment of eclampsia no definite rule can be laid down for the use of any agent in all cases alike. The safest way to be guided in the selection of remedies by the symptoms in each individual case, and by the condition of the patient. Whenever the speaker had met a robust plethoric primipara with a strong pulse, beating carotids, and cerebral congestion, he had never hesitated to use the lancet, along with calomel and valerianate of zinc. Where there is no indication for blood-letting he resorted to chloroform inhalations, and subcutaneous injections of morphia, but in every instance he endeavored to empty the uterus as rapidly as possible.

ACADEMY OF MEDICINE.

Meeting of June 12th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary.*

Ventral Hernia.

Dr. D. S. Young reported the following case: A woman, forty-eight years of age, short in stature, but wide and very obese, with symptoms of asthma, was admitted to the Cincinnati Hospital last spring for a swelling in the abdomen which was supposed to be an immense ventral hernia. This tumor, which was situated about two and one-half inches above and to the left of the umbilicus, was about six to eight inches in diameter and projected beyond the abdominal wall like an infant's head, which, indeed, it very much resembled. The patient had had an umbilical hernia for many years; it had always been reducible but at present showed symptoms of strangulation. For this reason the patient was clamorous for an operation and when the speaker proposed to apply a suitable apparatus declared she had no faith in an instrument of any kind which would serve as a truss. Nevertheless the speaker in a few days had an apparatus constructed which answered the purpose. As he had never yet secured a proper instrument for ventral hernia from an instrument-maker, he would describe his method of treating these cases. The patient is made to stand up and some strong material (in this case it was bed-ticking) pinned around the body. Segments of this material are cut out in various places and the edges sewed together, so as to adjust the bandage everywhere perfectly to the body. It is held in position by perineal belts or bands passing around the thigh and fastened with rubber attachments. A good method is by pieces of rubber hose through which strings are made to pass and secured these to the belt. After being thus fitted to the body the entire apparatus is drawn together with tape lacing. On the ventral side of this abdominal belt a ring is attached with a central projection to press in the tumor. He thought of making another set of laces on the sides of the apparatus, by means of which the belt might be more closely drawn together at night when in the recumbent position, when the bowels will fall back into the abdominal cavity and the band consequently become looser. But although the apparatus remained in proper position by day it always came out of order at night. This aroused a suspicion that the patient herself wilfully misplaced it. For this reason and because the speaker was not inclined to operate, as all the cases he had seen operated on terminated fatally, he let the patient go. She, however, soon returned and by her constant solicitations induced the speaker to operate, although she was not in a favorable condition for such a procedure. It seemed as if she would die from strangulation before beginning the operation. The speaker proposed to make an incision, dissect off the integument, return the sac into the cavity and bring the edges of the wound together by long needles pierced through them and twisting around these a figure of eight suture to close the opening and to hold the sac into the cavity of the abdomen. A drainage tube was also to be inserted. The patient was accordingly placed under ether and the operation begun. The umbilicus had disappeared from the distension; the skin over the tumor was so much attenuated—about one-thirty-second of an inch—that the operator was fearful of penetrating the sac. He separated the attachments to the point of escape which proved to be the umbilicus. The sac was evacuated and found to be filled with an accumulation of fat. As it was impossible to return this mass into the cavity through the original opening, the speaker concluded to distend the sac and remove the mass. A great deal of hemorrhage followed, but the patient rallied from the anæsthetic. Her temperature rose to 104° F., her breathing became short and she vomited. Pressure on the abdomen revealed no tenderness or symptoms of inflammation. Cold was applied and opium administered internally. On the fourth day her condition was encouraging but she died about four o'clock the next morning. The speaker accounted death to the ether, which was administered for the period of one hour to one hour and a half. The symptoms of depression from this agent continued from the time of the operation and caused a want of effort at reparation.

Post-mortem examination revealed no inflammation in the abdomen but the peritoneum was attached to the umbilicus on one side and was reflected over to the opposite side. There was no union, nor an effort to it anywhere. Both sides of the abdominal wall were gangrenous around the needles. Although the subject measured two feet externally from shoulder to shoulder the chest cavity was narrow, measuring less than ten inches. The lungs were contracted, the heart was flabby and all internal organs had undergone fatty degeneration, but there were no evidences of inflammation in this cavity. As stated in the beginning the patient was thought asthmatic, but previous examination revealed nothing abnormal. The speaker had no doubt that this patient was a bad subject and ought not to have been operated on, yet he would try an operation again if he would get a more favorable subject, where pathological conditions demanded surgical interference.

Dr. E. W. Walker, who had been present at the operation, testified to the condition of things as stated by Dr. Young. The tumor was very large and the walls thin, which he thought was due to atrophy from pressure of the omentum. The operation was therefore very delicate and necessarily took a long time. When the peritoneum was reached this itself was found firmly attached to the ring. He was not certain whether any intestine was included in the sac for it was difficult to determine whether its contents included the bowel or simply a mass of fat. It was impossible to reduce the omentum on account of its attachment to the umbilicus. In his estimation the cause of death was pyæmia due to minute septic emboli.

In this particular locality he considered the operation original, but otherwise not different from any hernia in which the sac is not opened.

Dr. Young replied that he did not believe in acute septicæmia. He regarded the ether as the fatal cause because the symptoms continued from the operation, as was explained by the condition of the heart and lungs. There was no pus to be found anywhere.

ERRATA.

The following inaccuracies in the discussion of the Academy Proceedings, pages 557-558, published last week, remained uncorrected.

In the remarks made by Dr. Judkins it should read "the essayist had properly given bichloride of mercury," instead of "had *not* properly given," etc.

In Dr. Forchheimer's remarks, first line, substitute "he" for "to be."

Dr. Reamy is made to say "Eccheverria was unable to detect any organic lesions," whilst he said that "although Eccheverria in a number of cases of epilepsy detected organic lesions, in other equally typical cases he was unable to find any post-mortem alterations, showing that the severity of the epileptic seizures do not stand in relation to any organic changes as found post-mortem in the nervous centres.

The eminent surgeon, Baron von Langenbeck, has tendered his resignation of the professorship of surgery in the University of Berlin, which he has held for many years with advantage to surgical science and honor to himself. His resignation has been accepted by the Prussian Government; and instructions have been given to take the necessary steps for the appointment of a successor to enter on the duties of the chair in October.

Academy of Medicine.—The Academy stands adjourned for the summer until the first Monday in September.

Selections.

MEDICINE.

On the Physiological and Therapeutical Action of Ergot.—Very much has been written on the physiological and therapeutical action of this important drug, many and varied have been the experiments on the lower animals, and by competent authorities, but the results have often been very contradictory; the same may be said of its action as a medicine. Several things may account for this: the inertia of the drug, the dose administered, and the manner in which it has been given. Certain preparations are inert, or nearly so, as the stale powder and the ordinary tincture. Heat is said to be destructive in preparing it, though old practitioners who have for a lifetime been in the habit of making at the bedside "tea" from the powder or the "beans" will doubt this. Alcoholic extracts are less powerful than aqueous ones. But it is even now a disputed point among chemists and physiologists as to what its active principle is. Levi says it is due to phosphoric acid, Winckler to the trimethylamine it contains, and Dragendorff to sclerotic acid, and this seems the most likely. Most observers agree that ecbolin and ergotin are *not* active principles, and that these never bring about the specific action of the drug—the so-called *ergotin* in use not being ergotin, but a compound body. However, all this is of minor importance to the physician provided he obtains an active preparation. The liquid extract and the ammoniated tincture are the best, the latter especially, in obstetric practice. Ergotin is most convenient for subcutaneous injection.

Physiological action: I shall not discuss toxic effects, which are never produced by any dose ever given by the medical practitioner. But the physiological action of ergot is most important. All experimenters are agreed on certain things, viz., that the arteries of the body are contracted by it, that blood-pressure is increased, that there is slowing of the heart's beat and pulse, and, if the remedy be pushed, that the pupils become dilated, that there is coldness of the surface and anæsthesia. Nearly all physiologists agree thus far. But how does ergot bring about the contraction of the arteries? are veins as well arteries equally affected? and does it act on nerve centres or the peripheral ends?

All physiologists agree that ergot increases the inhibitory action of the sympathetic (nerves of Remak), and thus causes the arteries to contract. If the sympathetic fibres are paralysed or cut through the arteries dilate, if they are stimulated they contract, therefore ergot stimulates the sympathetic. But Brown-Séquard, Holmes, and Wernich, tell us that ergot acts when the sympathetic is cut. That being so, ergot must act in one of two ways; either through the sensori-motor nerves, or by stimulating the cut or peripheral ends of the sympathetic in the same way that galvanism does.

Let us call to mind the composition of that (to use the language of Charcot) "physiologically complex totality called a nerve." Every sympathetic ganglion has three sets of fibres; a motor, a sensory, and sympathetic proper (grey fibres of Remak), and the action of these are antagonistic. Thus secretion in a gland is *arrested* when the motor fibres are cut, *increased* when the fibres of Remak are cut, also increased if the sensory fibres of the vaso-motor are *irritated* or excited. Let us suppose then that ergot is given where the fibres of Remak have been cut, in order to get *diminished* secretion (and that implies diminished supply of blood (a *paralysing* effect must be produced on both the motor and sensory fibres. This I believe actually takes place, judging from a therapeutical fact I shall presently mention, as well as from the anæsthesia and coldness of surface found in cases of poisoning by ergot. Nicitine, who has experimented with sclerotic acid, says the peripheral ends of the sensory nerves are paralysed. Köhler confirms this view. That the nerve centres themselves are affected there is no proof, nor is that required to explain the actions of ergot. That some dulling of a nerve centre should take place from the anæmia produced by the contractions of the vessels is likely enough, but beyond this there is no satisfactory experimental evidence of ergot affecting the nerve centres.

How does ergot act on the uterus? The usual theory is that it *irritates*, or that it causes *anæmia* of the motor centre of the uterus, wherever that may be, and so causes muscular contractions. But all the evidence—experimental and therapeutical—goes to prove that ergot has rather a *sedative* than an irritative effect. Kussmaul records a fact which better explains its action. He says that "spasm of arteries causes clonic contractions of muscles." We know that from its inhibitory action on the sympathetic ergot contracts the arteries, and thus is explained the clonic or intermittent contractions on the parturient uterus. There is also evidence that ergot acts on all involuntary muscles, on the heart, on the muscular fibres of the bowels increasing peristalsis, etc.; and in toxic doses general convulsions are produced. This action on muscle is most probably through the nervous system, and not from any special action on the muscles themselves.

Therapeutical action: From its action on the circulation and the nervous system it is evident that ergot possesses a wide therapeutical range. In mentioning a few diseases in which I have found it useful I would place at the head of the list *Pertussis*.

I am aware that in this disease a vast number of remedies are useful, but after a pretty extensive trial both in hospital and private practice I am inclined to regard ergot as the best and safest. Up to the time when I began to use ergot I regarded the combination of bromide of potassium and tincture of belladonna, or sulphate of zinc and tincture of belladonna, as the best remedies with which I was acquainted, but that sometimes necessitated the belladonna being pushed to its physiological action before the disease would yield. That was sometimes not unattended with danger in young children unless they were carefully watched, which cannot be easily done in hospital or dispensary practice, Ergot seldom fails to cure whooping cough in from one to three weeks; the cases that are longer in getting better are those complicated with bronchitis, or with troublesome bronchial catarrh. I give from four to fifteen minims of the liquid extract every three or four hours to children of three months and upwards. The benefit of the secale is at once apparent, the fits of coughing occur less frequently, and are not so severe when they do occur. I usually give it alone with a little sugar, but in complicated cases it may be combined with other remedies, and especially with the compound syrup of the phosphates to complete the cure when there is debility.

What is the action of ergot in whooping cough? We must regard the spasmodic cough as due to reflex action, and that in its turn brought about by the peculiar condition of the blood irritating the peripheral ends of the sensory nerves. Ergot dulls or paralyses these nerve ends and so lessens and eventually prevents the spasms. The true pathology of whooping cough may yet be considered doubtful, but I regard it as a germ disease, as only on that ground can we explain its infectious nature. I do not here claim for ergot any *specific* power, but rather a physiological one. It *may* have a specific action, but of that there is as yet no proof. However, of its power to cut short the disease there can be no doubt, whatever be the theory of its action. This I have in scores of cases proved, nor is it necessary to give cases in detail, as all the cases would simply show a daily declension of the disease till, at the end of a fortnight or three weeks, the cough quite ceased. But in some cases the cough returns when the medicine is left off, so it may have to be continued for two or even three months, this however is the exception.

The power of ergot on whooping cough throws some light on its physiological action. Indeed clinical or therapeutical observation often aids physiological research, though without experimental (vivisectional) investigation the therapeutist would be in hopeless darkness. Its action in whooping cough appears to me to favor the theory that the sensory peripheral endings only are affected, as central anæmia of the cord from constricted vessels could scarcely account for the *speedy* antispasmodic action of the drug, though later on it may have something to do in bringing about a cure.

On the uterus. On the parturient uterus every one has tried the effects of ergot, yet obstetricians are frequently disappointed in its action, so much so that many say it is useless; and I suppose every one has felt it to be provokingly uncertain, even in a most suitable case—a well-advanced labor free from mechanical obstruction, a dilated or dilatable os, and a multipara. In vain are large and oft-repeated doses given, the sluggish uterus will not act. Whether it be the only one or not, I know one cause to be due to the drug being inert. After a pretty extensive trial of power, tea, tincture and liquid extract, I have found the best results from the *Liquor Secale Ammoniata* when well prepared. Let one typical case suffice: Mrs. M. in labor with her seventh child; usually very quick. Visited patient at 8 o'clock in the morning. She had been in labor all night, during which time the membranes ruptured. Pains very feeble; os dilatable and as large as the mouth of a teacup. Went home, returned about twelve and found her much in the same condition. I then gave *Liq. Sec. Ammon.* (Ferris) ʒi.; in thirty-five minutes sharp pains came on, and in other fifteen minutes the child was born. Placenta came away easily. In this case the labor had lasted eighteen hours. In cases where I have given ʒiss. of the secale for a dose violent uterine contractions have taken place, expelling the child and retaining the placenta for some time by hour-glass contractions. This retention of the placenta I have frequently found after giving large doses, but not with drachm or half-drachm doses.

Has ergot any action on the unimpregnated uterus, or on the impregnated before parturition has commenced? As far as my experience goes ergot has no appreciable effect on the impregnated uterus when given in therapeutic doses. On the unimpregnated uterus its action is not very marked unless it be given for a lengthened period. In sub-involution and in chronic congestion and enlargement, the cavity of the uterus—the sound being judge—does not become diminished by the action of secale alone, but with rest and other remedies it helps. I have not much faith in its action on uterine fibroids. If they are submucoid ergot will assist their enucleation after an incision has been made. But it is too much to expect from a remedy that a tumor of any size will have its blood supply so cut off as to destroy the growth, or to cause enucleation by contractions; in such cases however it will assist natural efforts of expulsion when such have commenced.

Theoretically, ergot should have some effect on all hæmorrhages, congestions, and atonic conditions of the system. In hæmoptysis it has been highly spoken of, but my experience of it in that disease is small, as I have found such good results from the tincture of hamamelis that I seldom use any other remedy. Again, it is constantly used alone or combined with sulphuric acid in menorrhagia, and with more or less success. So also in leucorrhœa and galactorrhœa, though I have not found it of much use in preventing or cutting short mammary abscess.

In atonic and enfeebled conditions so often met with in women where anæmia is associated with a weak heart, inertia, etc., ergot, combined with tincture of iron, often acts better than strychnine and iron, or digitalis and iron. Allbut has used it with great benefit in men who are worn out from worry, and who need bracing up. So I have found it in some cases of children a useful adjunct to the compound syrup of phosphates where the latter is indicated.

In diarrhœa several writers have spoken highly of ergot, but in my hands it has invariably failed, indeed it has always increased the diarrhœa, and this, from its action on the muscular fibres of the intestines, is what one would expect. Any theoretical advantage to be gained by contraction of congested vessels in the mucous membrane is more than counterbalanced by the increased peristalsis. In a typical case of chronic diarrhœa which I had under my care a short time ago, and which continued for months despite every kind of treatment, I gave some ergot, but the patient could not be persuaded to finish one bottle, as he said it made him "worse than ever." The diarrhœa was due to muco-enteritis, and it eventually did well on large doses of bismuth. In children who have been taking ergot for some time diarrhœa frequently sets in. This is the only bad effect I find from its prolonged use—two or three months—in children, and when it is given in ordinary therapeutical doses, five to ten drops every four or six hours, it may be continued for a very long time without doing harm.

The action of ergot on the spinal cord is well known; but in congestion of the brain in children I have been most unfortunate in its use, even in large doses. In some of my cases, however, there was a suspicion of tubercle.

The following case which was under my care a few weeks ago may be looked upon as illustrating the speedy action of ergot on what appeared to be localized congestion of the cord: A little boy, aged four and rather delicate, was suddenly seized with what his mother thought a slight convulsion, in which he threw his head back, rolled his eyes, etc. On recovering he lay with the back of his head almost touching his spine, and he was in that condition when I saw him. On attempting to bring his head forward he strongly resisted and screamed. In this state the child lay for a fortnight appearing to get worse, for, besides his head being retracted, when he was held up his legs were found to be powerfully flexed on his thighs, and they could with difficulty be straightened. Iodide of potassium and various other internal and external remedies were used for a fortnight without the slightest effect. I then gave him *Liq. Ergotæ, m.* x. every four hours. In two days he showed symptoms of improvement, which continued till, at the end of a month from the commencement of the attack, he quite recovered. During the last week the compound syrup of the phosphates was added to the secale. There are several interesting points connected with this case, but I am only concerned here with the action of ergot.

The only other affection I shall mention where ergot seems to be useful and deserving of further trial is *nasal catarrh.* This troublesome complaint, which has hitherto resisted all remedies, if taken in its early stage may be cut short by a full dose of ergot—repeated if necessary.—John Dewar, L.R.C.P., etc.—*The Practitioner.*

LUPUS ERYTHEMATOSUS.—I have been honored by the committee with the task of opening the discussion on the second question of our programme, to wit: "On the nature and the treatment of lupus erythematosus.

This question should, to my thinking, be pointedly put as follows: Is lupus erythematosus an inflammatory process or a neoplastic one? For, the answer implies the conditions under which all that constitutes this process (as its symptoms, course and consequences) is viewed.

In all these respects it must be stated that no agreement is to be met with amongst authors and practitioners, either in theory or in practice.

After having given, more than ten years ago, an exhaustive description of this disease, which I was pleased to see met with the general acceptance of my colleagues, I was somewhat surprised by the remarks made on the subject two years ago (August, 1879), at the annual meeting of the British Medical Association, in Cork, by some of our English, as well as by some of our French, colleagues.

Since the disease is known by the name of lupus erythematosus, the name itself has been an obstacle to its being correctly understood. Practitioners have always been disposed to confound it with lupus vulgaris, or at least to bring it very near the latter. Long ago I stated that, merely to make a concession to custom, I ranked lupus erythematosus among the neoplasms, next to lupus vulgaris, but I have always insisted upon its inflammatory nature, and on its being thoroughly different from lupus vulgaris.

Every one who knows the history of this disease, and the different names formerly applied to it, must be aware that its name was not founded upon an agreement of its symptoms with those of lupus vulgaris, but merely upon the fact that, besides the generally congruent localization of both diseases in the face, they both, also, generally end in a cicatrization of the affected skin.

But what a difference in the road which either has to traverse till they arrive at this end!

I cannot now enter into an exposition of the symptoms of lupus vulgaris which would be necessary to make my opinions perfectly clear.

You are aware that before the publication of the plates in Hebra's "Atlas" there was only one form of the disease known—*i. e.*, the form of circular patches subdivided into many varieties: first, into three, by Cazenave; and that some of the older names correspond to it, as erythema centrifuge, dartre rongeante, qui détruit en surface, etc. In the plates mentioned, two forms are depicted, which I show here; one, representing the circular form in its localization on the nose and cheeks, compared to a butterfly-shape; and on the other plate, a disease consisting of discrete and lentil-sized patches of an otherwise well-pronounced character. But none—not even Hebra himself—made any distinction between them. Nor do I. On the contrary, I have for a special purpose taught that the process generally begins by the small spots, which I have called the "primary eruptive spots" (*primar-efflorescensen*) of lupus erythematosus.

I need not fully describe these spots before a meeting of professional brethern; but I merely state that every spot is characterized by a red, elevated, hyperæmic, and infiltrated border, and a central cicatrix-like depression, smooth, or covered with a dry, firmly-adherent scab.

But as to the further development of the process. I have been compelled to distinguish two forms, which I have designated: first, as lupus erythematous *discoides*; and second; as lupus erythematosus *aggregatus*.

The discoid form, which results from the spreading of single spots peripherally, is generally characterized by an exceedingly chronic course, not only of the individual patches, but also of the process as a whole. Further, it is usually confined to the region of the face and the head (including the mucous membrane of the mouth), occasionally attacking the fingers also.

Even in this form the clinical symptoms are easily recognized as belonging to an inflammatory process. This is strikingly expressed in the attribute "congestiva," which Hebra originally applied to the disease, and may be seen from the disappearance of the redness under the pressure of the finger, and its reappearance when the pressure has ceased; from the character of the infiltration; from the quick outbreak of hyperæmia, and its frequent disapperance without any trace; and last, not least, from the symptoms of very high and acute inflammation which occasionally complicate the discoid form, but which emphatically belong to the second form of the disease.

In the latter, to wit, in lupus erythematosus aggregatus, the symptoms of inflammation are far more striking.

Even in the lowest state of the disease, which has been called seborrhœa congestiva, from its character (congestion and its consequence, abundant secretion of the sebaceous glands), no doubt can arise concerning its inflammatory nature. So it is also in the other forms of eruption.

Patches of the size of a pin's head or a split lentil to that of a finger-nail, arise suddenly, slightly elevated, hyperæmic, hot and hard to touch, paling under pressure, burning; in brief, on the whole, not unlike urticaria spots, or those of erythema urticatum, or the first stage of eczema. As yet there is nothing characteristic of lupus erythematosus. There may appear single ones, twenty to one hundred and more, crowded in the face, or dispersed in other parts of the body. Many of these spots may disapper in the course of a few days without leaving any trace behind, while some of them remain and become characteristic by the atrophic depression of the centre.

It is known that what I have called lupus erythematosus aggregatus consists of such forms, and that the disease does not spread in this variety by increase of individual spots, and their transformation into disks, but by the augmentation of the number of single spots, which are crowded locally into large, uniform patches, and in their dispersion over large parts of the body.

Every outbreak of this kind may be accompanied by higher degrees of inflammation and exudation of the skin, so as to form crusts and scabs, as in eczema; or even blebs, as in herpes and pemphigus, with serous, purulent, or hemorrhagic contents.

I must not forget to call your attention to the inflammatory and painful tumors, which I have described as arising acutely in the depths of the subcutaneous cellular tissue, in the joints, and in the glands, over which, after a few days, patches of lupus erythematosus are formed, while this deep infiltration disappears; and above all these, to the state of inflammation of the face, which I have described and designated as *erysipelas perstans faciei*, which often leads to death.

The same thing is proved by the result of anatomical investigations which have been made by Neumann, Geddings, Thin, Stroganow, Geber, and others, and by myself.

Whereas it was formerly believed that there was merely an inflammation of the sebaceous glands and the subjacent tissue, I was able to show that the anatomical changes belonging to inflammation may be found in any layer of the skin, superficially or more deeply; and that very often they are met with in the depths of sweat-glands, spreading from there along the blood-vessels, into the papillary layer of the skin. Also the hemorrhages, the formation of blebs and pustules above mentioned, are among the symptoms of the inflammatory congestion and changes of the blood-vessels; whereas the numerous telangiectases, which are apt to remain at the very place of the lupus patches, are merely a consequence of the cicatrization, as may happen also in cicatrices of other origin.

To further penetrate into the nature of the process, we must inquire: What kind of inflammation is it which so rapidly leads to the cicatrization of the skin?

The question must be divided into two parts. First, what is going on locally? And in the second place, what remote causes may underlie the process?

As to the first, I may affirm that this is not a cicatrix, properly speaking, but a local atrophy of the skin.

I have demonstrated, in my publications of 1870, that in the midst of the inflammatory changes of the tissues, and at a very early age, fatty and molecular cloudiness of the cells of the rete and the glands, and of the formed elements resulting from inflammation, make their appearance. A similar, or a hyalöid, or a waxy degeneration takes place in the connective-tissue elements of the papillary layer, and of the blood-vessels, in consequence of which they in part become absorbed, and in part shrivel up, whilst the follicles also disappear, the blood-vessels become partly dilated, partly oliterated; briefly, all the symptoms of cicatricial degeneration and atrophy, including telangiectases, are to be recognized.

But for us it is essential to remember that many other processes of an inflammatory character and of cellular infiltration end in cicatrization; or rather in cicatrix-like atrophy, as scleroderma, lichen ruber, lichen scrofulosorum, and others; whereas, the true cicatrix is the organized production of granulation—that is, of a neoplasm.

The remote cause may also be considered as belonging to the etiology of the disease.

To me it is obvious that in many cases the affection has begun as a local disease, and run its whole course locally, without in the least affecting the constitution during the whole duration of the malady. I remember cases in which lupus erythematosus has proceeded from a seborrhœa of the nose and face, which had its recent origin in the scars of small-pox. In these cases there is not the least inducement to consider it as a constitutional disease.

I mention another fact, which has also been pointed out by others, that two thirds of the cases of lupus erythematosus are to be met with in females and that the latter are mostly chloranæmics. But this is by no means peculiar to lupus erythematosus, which, moreover, frequently occurs in healthy females, and also in men.

But undoubtedly we must affirm the existence of a decided sympathy of the whole organism in these stages, which I have called acute general eruption or lupus erythematosus.

There is no doubt that the high fever, the symptoms of pressure on the brain, the typhoid state, the vomiting, the pleuro-pneumonia, the delirium, sopor, and the convulsions which we have observed in such cases, are in immediate relation to the inflammatory process of the skin, as also the affections of the joints, the bones, the glands the erysipelas perstans faciei—in short, the outbreak,—and to the exacerbation of characteristic lupus spots.

Of course here we might ask: Whether the eruption is a consequence of a disorder of the nervous centres, or the reverse?

Although I think I have seen more autopsies in connection with this disease than any one else, yet I could not give a decided opinion.

I have observed eight cases of death in the number of fifty-three cases of lupus erythematosus (eighteen men, thirty-five women) treated in the Vienna clinic in the course of ten years, 1871—1881. Amongst these eight cases, were two men and six women.

The autopsies have shown in six cases pleuropneumonia, in two cases tuberculosis pulmonum, as immediate causes of death. Besides that, atrophy of the brain and œdema of the meninges (once marasmus and anæmia) have been noticed. In a case of lupus erythematosus acutus, fatal, last year, Jarisch has found inflammatory changes of the middle lateral parts of the anterior cornua of the medulla, as well as in its commissures. But neither this case, nor the results of investigations we have made in a case of lupus erythematosus acutus, fatal during this year, of the medulla spinalis, the interverbral ganglions, and those of the sympatheticus of the neck, could as yet authorize us to the opinion that the primary cause of the disturbance lies in the hypothetic trophic centres, or in the centre of vaso-motor nerves.

On the other hand, it is not unusual for us to use that, in consequence of undoubtedly local diseases of the skin, as burns, cauterization, loss of epidermis to a great extent from any cause, the severest symptoms of fever, of nervous disorder, singultus, convulsions, sopor, vomiting, and even death may ensue.

I am not inclined to interpret these symptoms otherwise, than that they may be provoked by reflex action from the affected skin. We are taught to do so by many other observations made in dermata-pathology; and we find this opinion here more convenient than that of neuritis ascendens.

Still there remains a wide field for the theory of general repression of nutrition, which may cause the degenerative character of the inflammation. But neither is such a state of general weakness to be found in all cases, nor can it explain the outbreak of the inflammation itself.

Before closing, in regard to the pathology of the disease, I submit another question: Whether my division of lupus erythematosus does not most correspond to the clinical features? For, to me, it seems that the subdivisions according to certain morphological differences—as erythematosus, or hemorrhagic, or acneic—do not touch any of the essentials, while division of discoid and aggregate, though making no difference as to origin, still indicates the two-fold manner of the clinical process: one chronic and indifferent, and the other acute, severe, and even fatal.

Now I pass to the practical question of the best treatment. On this I will be short.

The general and etiological conditions have given us no indications for an efficacious treatment. For, whatever generally invigorating remedy is given, as iron, cod-liver oil, strengthening diet, etc., it has no direct influence on the disease. About iodide with starch, recommended by McCall Anderson, and the iodoform, approved in two cases by our distinguished friend, E. Besnier, I have no sufficient experience. That the anti-syphilitic therapeutics are of no use at all I have amply experienced.

On the other hand, we are, as you are aware, very rich in external and local remedies. To the all but exhaustive number I published in 1869, I may at present add a few new ones, as corrosive sublimate, collodium, salicylic acid, pyrogallic acid, chrysarobin, iodoform, and naphthol, introduced by me.

Further, I can but repeat my former words, that each remedy and method of procedure may be found thoroughly efficacious in lupus erythematosus, but that this statement only applies to particular cases, since a method which has been put to the test in a number of cases, successfully, will leave us in the lurch in the very next case.

In judging of the efficiency of any remedy, we must not forget that patches of lupus erythematosus very often disappear spontaneously, or under the slightest influences. Of the large number of well-known remedies, all of which may be useful in special cases, the application of cold not excepted, I have in my experience found as most efficacious: soaps in all forms, especially spiritus saponis kalinus, dilute acids and alkalies, tar, sulphur, and iodine; most particularly emplastrum hydrargyri, which I have first applied successfully; sometimes pyrogallic acid; also, naphthol; finally, mechanical treatment by puncturing, scraping with a scoop, and scarification, which are most useful in destroying the disfiguring telangiectases that very often remain in the spots of lupus erythematosus which have recovered.—Prof. Kaposi in *Archives of Dermatology*.

THE TREATMRMT OF DIABETES.—Whether diabetes be itself a disease, or a disturbance arising in the course of various diseases, whether prominent in acute illness, or one among the obscure symptoms of chronic ailments, and whatever its origin may be, the conditions to be observed in its management are invariably the same;—the first essential of successful treatment is a carefully restricted diet.

During the temporary glycosuria of some febrile states, the use of starchy and saccharine foods and diluents, such as arrowroot, corn-flour, cocoa, barley-water, and gruel, is to be avoided;

milk is only to be used sparingly, cream is better; glycerine should replace sugar in cookery and in sweatening tea and coffee. Lemonade is best made with lemon-juice, glycerine, and cold water; in this white of egg may well be diffused. A little toast may be allowed, with plenty of butter, eggs, and beef-tea. The conscious subject of diabetes mostly adopts this method of nursing the more trifling ailments resulting from cold or fatigue; beef-tea is habitually substituted for gruel; limes and lemons are known as almost the only fruits free from sugar. Alcoholic stimulants would generally afford grateful help, but no wine can be quite palatable without sugar; no brandy is good without liqueur. Hollands, unsweetened gin, and some, but not all, kinds of whisky are fit adjuncts to the diabetic dietary.

When glycosuria is first detected during an attack of severe illness, it may be difficult to say how far diabetes is an accidental complication or an underlying condition, and impossible to estimate the originating causes at work; hence may arise a caution as to prognosis, but there is no place for hesitation as to treatment. Mostly in grave disease, as of lung or kidey, the diabetic condition has been foreknown, perhaps guarded against by a partial avoidance of starchy and saccharine food; in these cases, restrictions, which had been gradually relaxed as one or another slight departure from a rigid dietary had been found possible, have now to be reinforced. Where this condition has not been suspected, the patient will depend upon its early recognition and prompt treatment. The good effects of a rigid dietary have to be waited for with more patience in presence of a confirmed diathesis than where glycosuria may be dependent on a less persistent cause; but in either case steady perseverance in the same line of treatment is required, however different may be the primary causes.

Very variable is the power recovered by diabetic patients, of assimilating some articles of diet at certain times which at others would surely lead to a marked increase of their infirmity. Some can indulge in forbidden fruits with impunity, or occasionally a doubtful vegetable. Many can take milk fairly well, or need not entirely abstain from it. Sugar must always be excluded from stewed fruits, and from every kind of drink. A lump of sugar weighing two drachms, taken inadvertently in a cup of tea, has determined a secretion of six times that weight of glucose in the next twenty-four hours, and made rigorous care for some days needful to overcome the wrong tendency. There are times when all soluble ingesta should be tried for sugar by Fehling's test, and the bread and sauces with iodine. Starch will be found in some of the prepared flours said to be freed from it, or partly converted into dextrin. Gluten bread should habitually form part of the dietary; the rusks made by Bonthron are agreeable, either dry, or toasted with butter. Under careless diet a feeling of weakness, loss of flesh, irritability of manner, or some neuralgic pain, indicate an increase of sugar in the urine, which chemical examination confirms. Here a restricted diet has restored, within one week, 5 lbs. of weight to the body, or removed neuralgic pains in two days. A patient, under slightly modified diet, had severe neuralgic pains across both thighs after the fatigue of a journey to London; this ceased shortly after all starch, milk, and sugar had been avoided.

Among the remedial agents recommended in diabetes, salicylate of soda has been used with success in the symmetrical neuralgia of this state; the remedy had no effect on the diabetes itself in several cases under my own observation. In one of these cases, the utter uselessness of the Bethesda water was fully demonstrated three years ago; this proof of its inefficiency did not deter my patient from undertaking a journey to America to try its worth at the source, but with no favorable result. The water itself is not much more than a common table-water, a little too hard for ordinary use, but harmless and inert in moderate amount. In large quantities it is injurious, in the same way that a large quantity of any fluid is injurious in diabetes; with the further danger, not imaginary, but confirmed by distressing experience, that misplaced confidence in a futile resort leads to neglect of ordinary precautions, and so to danger and to death.

Of the good to be obtained from codeia and from extract of opium, in certain conditions attendant upon diabetes, my experience is amply confirmatory; half a grain of either is given with advantage in a pill, or a solution of codeia with dilute hydrochloric acid after meals. The improvement secured by their aid is not merely temporary, nor is it obtained at the cost of any decline of vital power, rather by a conservation of the nervous energy most readily exhausted in diabetes. Once where complete recovery resulted, after three and a half ounces of sugar were excreted daily, codeia in full does was one of the means employed.

The author of an able article on diabetes, in the last number of the *Practitioner*, is biased by a supposed analogy between the therapeutics of diabetes and of phthisis; the analogy is slight, so that the small dose of pilocarpin recommended for moistening the mouth in diabetes seems well worthy of trial in the manner directed. Moisture is restored to the skin by giving two or three grains of carbolic acid in an ounce of water three or four times a day for short periods; a solution of this strength, sprayed into the mouth and swallowed, relieves dryness of the tongue and throat; this solution of carbolic acid should always be administered during an intercurrent abscess or boil for two days before any incision is practiced in diabetic subjects.

Our ability to excite the secreting glands, except by the simplest aperients, is very limited; nor in the treatment of diabetes is this to be regretted, for the kidneys act too much, and there is no marked diminution in the activity of the other secreting organs of the body; the skin may be dry, but perspiration is not uncommon; the peptic glands act freely, for the appetite is large; the liver may be at fault, but is not inactive; many men diabetic for years are not therefore childless. The activity of the kidneys is directly excited by the presence of sugar; these organs, healthy at first, by degrees suffer from the overwork forced on them.

The two forms of albuminuria met with in diabetes are, perhaps, more readily distinguishable than when uncomplicated in this way. In contracting kidney, associated with gouty glycosuria, the quantity both of albumen and of sugar is small, and the urine is of comparatively low specific gravity; the conditions have gone on together, the diabetes being the less prominent, and not the primary one. The other form of albuminuria, with parenchymatous nephritis, appears in the course of typical diabetes; it comes on when the urine has been for some time in large quantity and of high specific gravity, and may co-exist with an excess of urea and uric acid. The first of these two conditions only is that in which a milk is to be recommended, or is even allowable; in the second the use of milk must sometimes be at once prohibited. Grave anxiety, caused by the persistence of both sugar and albumen in the urine after many of the restrictions in diet known to be requisite have been put in force, has been relieved shortly after the use of milk has been entirely stopped and cream exclusively used as a substitute. As the sugar diminishes, the albumen disappears and the quantity of urea increases.

In the course of diabetes sugar may completely disappear from the urine in some unfavorable contingencies. It is not rarely absent for considerable periods during convalescence; at these times the diet may be varied to almost any extent, and milk need not be excluded. Such disappearance of the sugar must not be considered as cure of the diabetes; let any shock or fatigue shake the precarious balance of health, and a return to the more strict rules of dietary becomes again necessary. Milk must be again prohibited for a time, because of the large quantity of sugar contained in the whey; very little of this remains in the cream, and least in Devonshire cream; cheese and curd are nearly free from it; butter is entirely unobjectionable. If skim milk is to be recommended in diabetes, why not whey? It is free from curd as well as from cream, while both contain all the sugar of milk. Indeed, it is not surprising that sugar has been recommended in diabetes;—could it be given not only on homœopathic principles, but strictly in homœopathic doses, so that all the sugar ingested could be reduced to some minute fraction of a grain a day, improvement would soon be evident.

Curd should be more utilized in the diabetic diet. Cheese-cakes made with it vary the fare that so much needs variation. The variety of supply for the more substantial dishes is ample; but for the lighter additions to a meal, that make eating less a duty than a pleasure, there is always room for some new combination. An agreeable cheese-cake, baked in ramakin papers instead of in pastry, can be made, with or without gluten bread and curd, in the following way:—Grate one ounce of bread with the rind of two lemons, and mix with half an ounce of glycerine; with this whisk up the whites of three eggs, two ounces of cream, and one ounce of fresh butter, melted by heat; add also the juice of the two lemons, and the yolk of the three eggs, well beaten; mix all together, and bake in ramakin cups for about twenty minutes, in a rather quick oven. A little more glycerine, or a little less lemon juice, will modify the flavor and consistence of this confection; it is to be eaten when cold.

The management of diabetes, besides attention to diet, requires moderation in exercise, very complete intervals of repose, plenty of fresh air, and avoidance of any excess in mental or bodily exertion. To control the exacerbations of the disease, absolute rest as well as rigid diet must be enjoined. At these times, for days together, the quantity of sugar excreted exceeds the amount to be derived from the starchy and saccharine food taken; a considerable amount of it must, therefore, come from amyloid material, and from waste products within the body. The protean compounds may be represented by sugar and ammonia, and their rapid disintegration may give rise to both products; with a less degree of disturbance this change would be less, some of the ammonia would be converted into urea and excreted as such, while less sugar would be formed. Rest and diet without medicine, in the course of diabetes mellitus, has gradually brought about a great diminution in the quantity of urine, a complete absence from it of sugar, with great proportional increase in the urea; and this favorable change has continued for weeks and months with but rare re-appearance of the sugar, though fruit, wine, milk, and ordinary bread, the greatest luxury to a diabetic convalescent, have been allowed.—William Squire, M.D., F.R,C.P., in the *Practitioner*.

New Treatment for Chordee.—M. Combillard recommends, in *C. Courier Médical*, to calm the pain induced in gonorrhœa, by nocturnal erections and chordee, injections containing bromide of potassium.

These injections are not, as a rule, in any degree irritating; they may be made four times daily, the last just before bedtime. The liquid should be allowed to remain one or two minutes in the urethra, in order to have the desired effect. The following is the most convenient formula:

℞.	Potass. bromid.,	ʒ iss	
	Tr. opii,	ʒ ss	
	Glycerinæ,	℥ iij	
	Aquæ,	℥v.	M.

In fifteen out of eighteen cases there was rapid diminution, or complete suppression of the erections. Bromide of potash gives these happy results, undoubtedly, owing to its anæsthetic influence on certain mucous membranes in moderating their reflex excitability.—*Medical and Surg. Reporter*.

Iodine in Malaria.—In the *Maryland Medical Journal*, February 15, 1882, Dr. R. B. Morison reports two hundred and fifty cases of malaria treated with tincture of iodine, in fifteen minim doses, largely diluted, a quarter hour before meals. His cases show an even more favorable result than where cinchonidia is employed, and he states that iodine is now the routine treatment in all cases of acute malaria coming to the dispensary. Similar observations are reported in the *Indian Medical Gazette*, for January, by Baboo Brojendry Nath Banerjee, at the meeting of Calcutta Medical Society. He states that since 1878 he has made large use of this method of treatment, and in 1879 published in the Calcutta *Medical News* that he had cured ninety per cent. of five hundred cases. Since then, however, he has been led to distrust the reliability of his results, and believes that many of his earlier trials were made in cases which recover spontaneously, while others of these cases last, even under no treatment, only one day. Under such circumstances any drug will appear to act like magic. His present belief is, that iodine will prove serviceable in about half the cases. The same author also reports cases in which burnt alum appeared to be of service.—*Miss. Valley Medical Monthly.*

RELATIONS OF TUBERCULOSIS AND SCROFULOSIS.—From an experimental and clinical study of this subject, Dr. H. Martin concludes:

1. It has been proved by numerous experiments that tubercle, when inoculated, can only produce tubercle.

2. Every foreign body, whether animal or vegetable, or whether living and healthy tissue, or living pathological tissues, such as that of tumors, or tissue destroyed by reagents or in process of caseous degeneration, when inoculated can only give rise to a *pseudo tuberculosis.*

3. Scrofula, as at present understood, is perhaps not a distinct morbid process; many of its symptoms belong to the manifestations of tuberculosis. Inoculations in series furnish the only means of reaching a positive diagnosis.

4. When this method has been applied successively to the study of the different lesions of scrofula, it will be found that they are closely associated with tuberculosis, perhaps modified by a lymphatic temperament.—*Revue de Médicine.*—*Medical News.*

IODOFORM IN GASTRIC ULCER.—Dr. M. J. Redmond (*British Medical Journal*, May 6, 1882), having observed the rapidity with which external ulcers heal under the influence of iodoform, gave a marked case of gastric ulcer three grains of iodoform three times daily, in pill form. The hæmatemesis which had been persistent up to the use of the iodoform diminished, vomiting ceased, pain and tenderness decreased, and within a month the patient had fully recovered. The patient was a young unmarried woman, so it is possible that there might be an hysterical element in the case.—*Chicago Medical Review.*

VARIABILITY OF SURFACE TEMPERATURE IN TUBERCULOSIS.—At a recent meeting of the Société de Biologie, Paris, M. Redard read a communication on the comparative temperature of the skin over the thorax and in the axilla in tuberculosis pulmonum. Since he communicated to the Society in October, 1880, his investigations of the surface temperature of the normal thorax in the course of pneumonia and pleurisy. M. Redard has studied the peripheral temperature of the chest in the different forms of phthisis, with the aid of thermo-electric plates.

From these studies he concludes—

I. *Of the temperature of the skin of the thorax in pulmonary tuberculosis:*

1. Every tubercular focus does not cause an elevation of the temperature of the corresponding chest wall.

2. The local rise of temperature is not always proportional to the extent of the lesion.

3. The surface temperature of the thorax may vary with the times of examinations; a point which this morning gives a temperature much higher than a point opposite, may to-morrow evening yield a much lower temperature—hence the necessity of following up the course of the temperature for several days, and taking the the average.

4. It is not in tuberculous patients alone that we may observe differences in the temperature of the two sides of the thorax; chlorotic, and more especially hysterical individuals, as we have frequent occasions to observe, exhibit very different degrees of peripheral temperature on the two sides of the thorax.

5. In acute phthisis, in the first stage of phthisis, and yet more in the congestive forms of hemoptysis, accompanied by a febrile attack there is very often a thermometric elevation of five- or six-tenths of a degree over the side in which the chief tuberculous lesion is located.

This increased temperature is not confined to the tuberculous focus; there is generally a slight elevation of temperature over the entire surface of the thorax, frequently as pronounced at points corresponding to healthy portions as at those corresponding to infiltrated portions. A local elevation of temperature may exist at the the base of the neck; on a level with the lower rib and at the junction of the thorax and abdomen.

6. In phthisis at the stage of breaking down, and in the chronic forms of the disease without pronounced fever, the results of a local application of the thermometer are altogether uncertain, and the record obtained by them could be of no real service. In sixty cases, the elevation of temperature was twenty-eight times on the side more affected; thirty-two times on the side less affected; and in ten cases, the temperature of the two sides was equal.

7. In the third stage of phthisis the results are more definite.

In this stage the subjects are attacked with an infiltration of tubercles on one side while the other side is in the stage of softening and the formation of cavities; the elevation of temperature will generally be the more marked on the side more affected. In such cases the elevation of temperature is on the level of the cavities.

In the last two groups of cases, as in phthisis of the first stage, the elevation of temperature is observed over a considerable extent of the thorax, and not solely at the points where auscultation and percussion indicate the most advanced lesions.

8. In no case have we found the temperature of the skin of the thorax higher than the general temperature as registered in the axilla.

In conclusion, the examination of the peripheral temperature in phthisis does not admit the forming of any definite rules.

The result of thermometric examinations of the chest walls in incipient phthisis presents almost constant indications.

II. *Of the comparative axillary temperature in phthisis.*—Just as we found in the examination of the surface temperature of the thoracic walls, so a study of the comparative temperature of the axilla justifies us in laying down no fixed rules.

In phthisis of a rapid progress, with fever, the temperature is generally higher (five- or six-tenths of a degree) upon the side more affected.

In chronic phthisis the results are more variable. The tubercles in a state of infiltration raise the temperature of the axilla on the infiltrated side higher than on the side of a breaking down process. The temperature of the axilla on the side of a cavernous lung, as compared with that on a side containing tubercles in a state of disintegration, is generally less elevated.—*La Tribune Médicale*, April 30, 1882. J.M.F.

SYPHILIS TRANSMITTED TO THE THIRD GENERATION. — Mr. Jonathan Hutchinson (*Reynold's System of Medicine*, vol. 1, p. 431), gives the following: "A respectable young woman came to me about six months ago, on account of an inflamed eye. She had interstitial keratitis in a typical form, her teeth were notched, and her physiogomy characteristic. She told me she was suckling her first child, an infant of two months. I inquired if it were healthy. She said it was a fine baby and ailed nothing whatever. I asked her to bring it with her at her next visit. She did so, and on having it stripped, I found it covered with coppery blotches, with condylomata at the anus and snuffles at the nose. In subsequent treatments by mercury all these symptoms disappeared. There remains of course the source of fallacy that this child's parents, one or other of them, may have acquired syphilis. As to its father, I may state that he has long been under my treatment for sycosis, and that I have made the most detailed inquiry of him as to any venereal disease. I believe strongly that he has never had any. A fact which is perhaps of more value than his own statement, is that his sycosis has not been benefitted in the least degree by the iodide of potassium. Of course I have not ventured to insult him by inquiring into his wife's antecedents; but there is no reason to entertain suspicion in that quarter, while the fact that she is the subject of inherited disease makes it probable that she would not be liable to the acquired disease. Having, therefore, carefully balanced the evidence, I incline to believe that in this we have an instance of the transmission of syphilis to the third generation.—*Canada Lancet.*

THE CONTAGIOUSNESS OF TUBERCULOSIS.—The facts with regard to the contagiousness of tuberculosis which I have presented to the Academy of Medicine, and the objections which have been offered with regard to them since, induce me to explain the programme I had drawn up four years ago, and which comprises, up to the present time, more than 225 experiments. I had more particulary in view the contagious nature of the malady, and the dangers it offers from a hygienic point of view.

When I commence the study of a contagious disease my first preoccupation is to find the species of animal in which it may be developed most certainly and rapidly. This is the reason why, in studying tuberculosis, I was led to employ the rabbit, pig, and cat. It is for the same reason that experimenters, in studying anthrax, have also had recourse to the rabbit, although it is extremely rare to meet with spontaneous outbreaks of the disease in this creature. And it is the same with the pig, with regard to the tuberculosis; but I have been able to note that this disease as certainly kills the two species as anthrax does the rabbit.

I believe that the susceptibility of the human species is still greater, and I think it very probable that if children, or even adults, were inoculated with tuberculosis, very few would escape infection.

A disease which kills one-fifth of a species is certainly a disease of that species. Tuberculosis is really a disease of mankind, and when it is present in the form of germs in a good portion of the food we consume, surely it does not savor of temerity to ask that sufficient hygienic conditions should be maintained to prevent this enormous mortality.

Tuberculosis of man is exactly the same as that of the ox and cow. When it is conveyed to animals by inoculation it produces absolutely the same kind of lesions, is capable of transmission to other animals, and is constantly reproduced in the same form. Of this I have assured myself, by causing animals to eat tuberculosis matter derived from man, or in inoculating them with his blood. Like the tuberculosis of the cow, that of man is inocuable through the digestive canal, by blood and secretion fluids, and it always presents identical characters.

To this it is objected, it is true, that tuberculosis is also produced by the inoculation of inert matters. But explanation is necessary here. It has been proved by many pathologists that we can, almost at will, produce similar lesions to those of tuberculosis. I have myself seen very marked instances of this kind. But this disease which is so easily induced, cannot be reproduced by inoculation with the tubercles thus obtained.

These experiments only prove one thing, and that is, that the *histologic lesions* by which tuberculosis can be characterised are not sufficient. With regard to determining in this way that it is true tuberculosis, capable of being indefinitely inoculated, I deny it; this experimental tuberculosis remains an *artificial* disease. True tuberculosis, no matter whether derived from man, the cow, pig, or rabbit, can be reproduced in an infinite series, constantly, *with absolutely identical characters*, and passes from *animal to animal* without being impaired in virulency. Nay, more, it becomes all the more energetic and rapid in action, the more frequently it is inoculated. I could produce numerous facts in series, with pathological specimens to illustrate them. Thus, at the commencement it requires four or five months to kill a pig or rabbit by tubercle inoculation, but at the fifth series of inoculations two months suffice. General infection taking place at about thirty-five days, if at this period we kill the animal and inoculate another from it, frequently this dies of the disease before the other would have done, if allowed to live.

It is particularly with tuberculosis produced with cultivated virus that we find the greatest increase in virulence. The serosity from the caseous gland of a cat which had died as a consequence of injection of cultivated virus, was inoculated into six rabbits, and all of these became tuberculous. Forty days afterwards they already had pulmonary tubercles, with which six rabbits and a pig were inoculated. The latter died in fifty-seven days and one of the rabbits in sixty-eight days; and at this period the animals are more affected than those of the third. With the cultivated virus the fifth series are more abundant and more rapid than the first, the tenth than the fifth. It would appear that the microbium becomes acclimatised in the medium in which it is grown.

A rabbit which had received, five months previously, eight drops of the eighth cultivation in the jugular vein, died, and its lungs were found to be full of nodules (granulations), as were also the kidneys and spleen. I may also mention the case of a pig, inoculated with the vaccine cultivated on a tuberculous cow, and which, when killed, was a splendid example of generalized tuberculosis. — Prof. Toussaint, M.D.—*Medical Press and Circular.*

DIABETETIC ENDOCARDITIS.—M. Lecorche points out, in a communication to the Académie des Sciences, that the frequent occurence of inflammation in the course of diabetes leaves no doubt of the tendency of this affection to produce in the persons who are attacked by it an inflammatory diathesis. The inflammations are not confined to the skin, the digestive canal, the kidneys, nor the lungs; they may implicate other organs. M. Lecorché recently described to the Academy of Medicine, as one of the somewhat frequent complications of diabetes, atrophic cirrhosis of the liver. He now draws attention to endocarditis. Diabetic endocarditis, which he has observed on several occasions, appears to show itself more frequently in females than in males (in eight cases out of fourteen). He has not met with it otherwise than in the chronic condition, and only as a complication of subacute or chronic diabetes. It only appears at an advanced stage of the disease—two or three years, or even more, after its commencement. Its appearance seems to be favored less by the intensity of the glycosuria than by its long duration. It is localized at the level of the mitral orifice, and M. Lecorché has only seen it on one occasion situated at the level of the aortic orifice. It reveals its existence by a *bruit de souffle* with the first sound at the apex of the heart, and by irregularity and intermittence of the pulse. It is sometimes accompanied by atheromatous degeneration of the arteries (twice out of fourteen cases). It accelerates the progress of diabetes, and frequently brings on death, either by inducing a more or less generalized œdema, ascites, or by becoming complicated with acute hepatitis. It seems to be due to the irritation which the prolonged contact of blood changed by the presence of sugar in excess produces on the lining membrane of the heart.—*British Medical Journal.*

INFANTILE CONVULSIONS.—The adopted and regular treatment of M. Jules Simon, of the Hospital des Enfantes Malades, for infantile convulsions is as follows: On arrival the first thing he orders is an injection of salt and water, salad oil, or glycerine, or honey, which he administers himself, as he has too often observed that the parents or the nurse have already lost their wits. If the teeth can be opened sufficiently a vomitive is given which clears the stomach of any food that could not be digested—the most frequent cause of convulsions. However, the attack continues but soon ceases on applying a handkerchief, on which a few drops of chloroform are poured, to the mouth which the child inhales largely. If convulsions reappear the anæsthetic is renewed, and the child is placed in a mustard bath for a few minutes and then wiped dry and placed on his bed properly wrapped. Chloroform might be again administered if, after an interval, the child was seized again, and before leaving the nurse M. Simon prescribes a four ounce potion containing sixteen grains of bromide of potassium, one grain of musk, and a proportional preparation of opium, for he does not believe that the brain is congested in these attacks, it is rather excited, and the opium acts as a sedative. A teaspoonful of the mixture is given several times a day. On the following days the child is generally restless and irritable and ready to be attacked again, but a small blister about an inch square is applied to the back of the neck and left on about three hours, when it is replaced by a poultice of linseed meal and gives most satisfactory results. M. Simon, in terminating, says "such is the treatment that I have instituted in my practice of every day."—*Medical Press and Circular.*

THE SIXTH CEREBRAL VENTRICLE.—The sixth cerebral ventricle is a feature of coarse encephalic anatomy, commonly ignored in text-books and monographs dealing with the brain. Like the fifth ventricle, which is not a true ventricle—that is, not derived from a modification of the lumen of a medullary tube—it is a secondary formation. Just as the fifth ventricle is formed by the mesal faces of the atrophied hemispheric walls or the septum lucidum, the callosum and fornices, so the sixth is formed by the splenium of the callosum and the fornices. It is not constant, being found by Techini and Staurenghi in twenty-six subjects, out of one hundred and forty-five. The cavity is lined with epithelium and may become the seat of a hydropsy. This "ventricle," first described by Verga, is known to the German anatomists as the "Fornixventrikel."—*American Journal of Neurology and Psychiatry.*

THE HYPODERMIC ADMINISTRATION OF AMYL-NITRITE.—J. J. FREDERICK BARNES writes as follows to the *British Medical Journal.*

I have admistered amyl-nitrite hypodermically thirty or more times during the past eighteen months. In all cases, a ten per cent solution in rectified spirit was used. In no case did any untoward inflammatory or suppurative symptoms occur afterwards. The action of the drug was immediate in every case, the subjective phenomena being like those experienced when using the ordinary methods of administration. The spirit solution appears to be an excellent preparation for use, as a small quantity kept in an ordin ary stoppered bottle for some months retains its full efficiency at the present time. The dose usually administered has been ten minims of the solution, equal to one minim of amyl-nitrite. In lumbago, where the patient is seen at the commencement of the attack, and the disease is not of long standing, the drug given in this manner instantly relieves the symptoms; a patient who is unable, previously to its administration, to bend the trunk without the most exquisite pain, five minutes afterwards can do so quite readily. In a case of paraffin-poisoning, where the patient was in a state of collapse and almost pulseless, one administration (inhalation having been ineffectually tried) brought on an immediate resumption of cardiac function, the man speedily recovering. Its action in this case would, I apprehend, be due to the relief momemtarily given to the congested centres by the peripheral hyperæmia induced. In another case, one of duodenal colic, the patient was found rolling on the floor from the acuteness of the pain; when, on injecting fifteen minims of the spirit solution, the pain disappeared as if by magic, and the patient was at once able to resume his ordinary position. The value of this drug by ordinary methods of administration has already abundantly demonstrated how great a boon the discovery of Dr. Lauder Brunton is in the hands of the profession, notably in cardiac angina; and I feel confident that its utility may be still further enhanced by giving it as here recommended, hypodermically.

Senator on Bulbar Paralysis.—Hemianæsthesia alternans has hitherto been regarded as a symptom pathognomonic of lesions of the pons. Recently, however, Senator has reported a case (see *Archiv f. Psych.*, Bd. xi., p. 713), which shows that this symptom may be present though the lesion is confined to the medulla oblongata.

A man, aged 56, without losing consciousness was seized with an attack of vertigo. He had the greatest difficulty in swallowing, had a tendency to fall to the left side, had a feeling of cold in the left half of his face, and had an affection of speech which gave one the impression that he was suffering from some obstruction in the larynx or pharynx. There were no symptoms of motor paralysis, except that the tongue was protruded a little to the left, and the left eye appeared somewhat smaller than the right. The temperature was normal, but the pulse beat 120 per minute. Five days later he was seen by Senator. He was then complaining of difficulty in swallowing, of hunger, and of want of breath. Sensibility was almost completely lost in the left half of the face, and in the whole right half of the body, as well as in the right arm and leg. Attempts to swallow either liquids or solids caused hawking or choking, and the substance was returned, sometimes through the nostrils. The voice, once powerful and clear, had become a whisper, and there was still the inclination to fall to the left. The patellar tendon reflex was absent on both sides.

For a week there was little change in his condition. Examination with the laryngoscope showed partial paralysis of the vocal cords. The electro-cutaneous sensibility was either lost or very much diminished in the left face and in the right half of the body. The patient died of putrid bronchitis and broncho-pneumonia, after an illness of fourteen days in all.

The post-mortem revealed a small focus of softening in the outer portion of the left half of the medulla oblongata, and thrombosis of the left vertebral and posterior inferior cerebellar arteries. The greatest length of the focus was about one cm.; superiorly, it did not extend so far as the pons; inferiorly, it did not reach the level of the plane drawn through the thalamus scriptorius. The greatest breadth of the focus was attained a little below the middle of the olivary body; here the restiform body and the contiguous portions of Burdach's column and of the lateral column, the ascending root of the fifth nerve, the motor nucleus of the vagus and a portion of the fibre of the vagus, were all implicated. The olivary body, the root of the hypoglossus, and the nuclei of the hypoglossus and vagus were quite intact.

Senator remarks that the difficulty in swallowing, the snuffling speech (due to paralysis of the pharyngeal muscles), the altered voice, the rapid pulse, the hunger and the feeling of want of breath were all symptoms indicative in this case of lesion of the vagus nerve. The absence of vaso-motor disturbances (with the exception of a slight and transient lividity of the right arm), of polyuria and glycosuria, is worthy of note; as also the fact that there was no marked defect in the knowledge of the position and lie of the right extremities, notwithstanding the loss of ordinary sensibility in them.—*Brain.*

The Iodine Treatment of Pneumonia.—Dr. Schwartz claims to have discovered in iodine (tincture of iodine, iodide of potassium) a specific for fibrous pneumonia. It may even be administered within the first twenty-four or thirty-six hours of the invasion with the hope of arresting the disease. This was at least the result he obtained in ten cases in which resolution occurred toward the end of the second day; a result which, to be sure, cannot be obtained in all cases, even when taken in the first stage, but still one which followed this treatment in a very favorable proportion of cases.—*Deutsche Med. Wochenschrift.*—*Lyon Médical*, No. 15, 1882. J.M.F.

A Regulating Nervous System of the Respiration.—Dr. J. C. Graham (*Archiv für die gesammte Physiologie*) has discovered a new regulating nervous system of the respiratory centre. If, in a rabbit, after opening the abdomen (the thorax unopened), as long a piece as possible of the splanchnic is prepared (which is easiest on the left side), a section is made of it, and the central end is laid upon electrodes, then the breathing is arrested in a state of expiration, the diaphragm is in a state like in an extreme expiratory act, and the expiratory muscles of the abdomen in the state of strongest contraction. This experiment succeeds when the two vagi and sympathetic in the neck are divided. This experiment is said to be very suitable for a demonstration at a lecture, as it never fails. After section of the medulla oblongata in its most anterior part, so that connection with the brain is cut off, still the experiment succeeds. After section of the spinal cord between the 11th and

12th dorsal vertebræ the experiment still ensues. After section of the spinal cord between the 4th and 5th dorsal vertebræ then the experiment fails. These facts prove that the fibres run in the sympathetic and thus enter the spinal cord, and then ascend to the medulla oblongata. This irritation of the splanchnic succeeds when the animal is in a state of dyspnœa and apnœa.—*Journal of Mental and Nervous Diseases.*

THE FORNIX.—The distinguished anatomist, Forel, believes that the fusion of the fornix with a longitudinal fasciculus of the centrum ovale, observed by him in the brain of an adult microcephalous idiot whose corpus callosum was altogether wanting, proves the ontogenetic relation of the fornix to the intra-cerebral medullary tracts. He further asserts that it is the corpus callosum which, in its development, separates the fornix from the medullary nucleus of the hemispheres. The former proposition is not only correct, but it is also corroborative of Meynert, who incorporated the fornix with his highest projection system. The latter proposition we do not think tenable. The first indication of a fornix in the reptilia is a short fibrillar mass connecting the inverted edge of the thin-walled cerebral hemisphere with the thalamus, and which is altogether distinct from the representative of the corona radiata. A similar relation is noticed in the embryos of higher animals, and it seems that in the revolution which the posterior half of the hemispheric vesicle makes around the thalamus as an axis, the originally short and direct fornix is drawn out into a long column, which follows in its course the rotating inferior ventricular cornu. Any inference drawn from the observation of monstrosities is unsafe as long as it cannot be supported by observations made on normal brains, either mature or embryonic, or unless it at least harmonizes with such.—*American Journal of Neurology.*

M. **LECORCHÉ**, in a communication to the Académie de Médecine, affirms that grave structural changes in the liver will arrest diabetes. Hepatic congestion is invariable, and later on secondary structural changes occur. At the same meeting M. Magitot stated that diabetics are extremely liable to a jaw affection, which he names alveolar osteo-periostitis, which may begin with the onset of the disease and continue throughout it. This jaw trouble begins by a deviation of the teeth from the perpendicular, they then loosen and fall out. The alveolar borders are absorbed, sometimes after gangrene of the jaw, which latter symptom usually precedes death.—*American Journal of Neurology.*

THE RESPIRATORY CENTRES.—Langendorff and Nitchsmann (*Archiv für Physiologie*, 1880,) have studied the spinal centres of respiration. It has been shown long ago by several observers that centres exist in the spinal cord, which, by reflex activity, can carry on the respiratory act. They proceeded to determine if these centres are automatic as well as reflex. When the medulla oblongata is severed from the spinal cord and the flow of blood is arrested by artificial respiration, then after a short period independent respiratory movements are set up. The chances of this return of respiration are greater the younger the animal. If after section of medulla oblongata a dose of .0005—.001 gr. of strychnia is given, then there ensue some convulsions, which in a short time are shortened and weakened by artificial respiration. After they are over, then suddenly, in the midst of the artificial respiration, violent respiratory movements ensue, but after a minute or two the breathing slows, and usually at the same time is deeper. The frequency corresponds, in general, to that of a normal animal. Not only is there rythmic movement of the diaphragm, but co-ordinated respiratory movement of a distinct group of muscles, after removal of the medulla oblongata. They conclude, from these experiments, that spinal respiratory centres display automatic as well as reflex activity.—*Journal of Mental and Nervous Diseases.*

SURGERY.

THE PYROGALLIC ACID TREATMENT OF PHAGADENÆ.—The application of pyrogallic acid to phagadenic chancres is followed by such excellent results that we frequently return to the application used by M. Vidal during his service. There were in the ward two cases in which the phagadenæ had attained considerable size, and two or three applications of the pyrogallic acid sufficed to completely arrest the extension of the lesion. Two days later he practiced auto-innoculation in these cases and the result was negative; he has, in fact, been able to demonstrate that the liquid secreted from the wound after the use of the acid loses completely its virulence. These tests can now be made with impunity, because we have in the pyrogallic acid a means of stopping at once the progress of any injuries that might be produced.

The application of the pyrogallic acid gives the wound a blackish color, about which there need be no concern. It should also be mentioned that this treatment induces about the base of the sore a slight induration which greatly resembles that observed in the syphilitic chancre and might easily lead to error if one were not informed of this result.

In cases where the wound was rather large and presented numerous irregularities or cavities, necessarily attended with considerable difficulty in applying the remedy to all its parts, instead of applying the salve he ordinarily used, M. Vidal makes application to its surface of a powder composed of one part of pyrogallic acid to four parts of starch. This application is renewed morning and evening; two successive days of the treatment generally being sufficient to completely modify the phagadenic character of the wound. The treatment is then continued by means of the subcarbonate of iron.—M. Paul Lucas-Championniere in *Journal de Med. et de Chirurg.*, March, 1882. J.M.F.

THE TREATMENT OF CARBUNCLES.—In the course of a recent clinical lecture, delivered at the Hopital de la Charité, M. Gosselin made some interesting remarks on the above subject *à propos* of a carbuncle on the neck of a patient then presented. He advised opium and chloral for mitigation of the intense pain, and subcutaneous incisions, after the method of Alphonse Guérin, in the event of failure of these anodynes to relieve the suffering. The object of the incision is to relieve tension, to divide some of the sensitive nerves, and to afford an exit for the inflammatory products. The incisions are made hypodermically, in order to prevent the development of erysipelas, which often attacks an open cutaneous wound under these circumstances. A bistoury is usually introduced through one of the spontaneous cutaneous apertures produced by the carbuncle, and is then made to divide the inflamed tissues in a direction parallel to the surface. If there be no spontaneous opening which may be thus utilized, the bistoury is inserted through a cicatrix, and section effected, subcutaneously, as in the former instance.—*Le Médecin Praticien.*

RESECTION OF A VERTEBRAL BODY.—Dr. J. Israel (*Berliner Medicinische Wochenschrift*, March 6, 1882), reports a case of a scoliotic man who was paraplegic and in whom the symptoms pointed to pressure on the motor portion of the cord. The presence of a cold abscess to the left of the first lumbar spine, the pain on pressure and the fact that the paraplegia had gradually occurred led to the diagnosis of caries of the body of the vertebra. The abscess was first opened next the sinus leading to the twelfth rib at its greatest convexity. The rib was found to be carrious and was resected. The vertebra had undergone cheesy degeneration, and was scooped out by a sharp spoon. The patient died thirty-seven days after the operation. On the autopsy, dry pleurisy and miliary pulmonary tuberculosis were found. The cases reported by Spencer (*New England Medical Monthly*), and that reported by *Gaillard's Medical Journal* for March seem to show the feasibility of this operation in similar cases, to Israel's case.—*Canada Medical Review.*

THE ELASTIC LIGATURE IN ABDOMINAL SURGERY.—A recent number of the *Berliner Klinische Wochenschrift* contains an interesting communication on the intra-peritoneal treatment of the pedicle of uterine fibroids and the removal of tumors and parts of the abdominal viscera by the elastic ligature. The paper is by Dr. Kasprzik, assistant in the Fréiburg gynecological clinic, and is based upon experiments conducted by Prof. Hegar. The author believes that in the elastic ligature a means has been discovered by which not only the complete but the partial removal of the spleen, kidneys, omentum, even of the liver, can be accomplished without excessive risk.

The extremely favorable results which Prof. Hegar had obtained with the elastic ligature in the extirpation of uterine fibroids—the risk of secondary hemorrhage being by it almost completely abolished—led him to devise a series of experiments to test its behavior in the abdomen and its applicability to other possible requirements of abdominal surgery. The first set of experiments were performed to see what happens when a bit of india-rubber tubing is left in the abdomen. They showed that it was borne exceedingly well, that it did not excite suppuration or peritonitis. In the second group of experiments pieces of omentum, uterus, spleen, liver and kidneys were surrounded with the elastic ligature, and the piece thus secured cut away either with knife, scissors, or the platinum blade of Paquelin's cautery. It was found that parts of the uterus, omentum, or spleen might thus be removed with safety. In the case of the omentum and uterus india-rubber threads were sufficient, but in that of the spleen, thin, solid cords were found to cut through the tissue; but when a piece of india-rubber tubing was used the results were successful.

The experiments in removal of pieces of liver and kidney terminated unfavorably; but they were few in number, and Prof. Hegar hopes that by continuing them knowledge may be gained as to the kind of ligature and the tension to be put on it, which may lead to success here also. In any case he thinks he has proved that the stump of the uterus may be treated with the elastic ligature without risk. He does not think, however, that on that account the question of the intra- or extra-peritoneal treatment of the stump is finally settled. The *technique* of the elastic ligature is very important. It is necessary to know how much stretching the india-rubber will bear and how much will be best for the stump. The firmer the tissue of the latter, the higher will be the tension of the ligature required to arrest hemorrhage. If on the other hand the stump be soft and vascular, a too tightly stretched ligature will cut through it, and dangerous hemorrhage result. The ordinary method of tying does not suit the elastic ligature, because it slips before the knot can be made fast. Prof. Hegar therefore simply crosses the ends, seizes them with a special pair of forceps, something like scissors with blunt blades, and then ties together with silk or wire the ends of the ligatures where they cross one another, between the forceps and the stump. The ends are then cut off on the other side of the forceps and the latter removed.—*Med. Times and Gazette.*

HEMORRHAGE AFTER TONSILLOTOMY.—Lefferts (*Archiv of Laryngol.*, Jan. 1) in 500 tonsillotomies found: 1. A fatal hemorrhage very rare. 2. A dangerous one occasionally. 3. A serious one in both immediate and remote results not very unusual. 4. A moderate one requiring direct pressure and strong astringents to check it common. In the majority of cases no trouble is experienced.—*Maryland Med. Journal.*

SUBCUTANEOUS SECTION OF ADHESIONS FOR REDUCTION OF OLD DISLOCATIONS OF THE SHOULDER JOINT.—The fibrous adherences which form around the displaced head of the humerus are the great obstacle to be overcome in reducing the luxation. After six months for sub-coracoid luxations, and four months for the intra-coracoid, they are generally so firm as to render reduction impossible. Fracture of the neck of the humerus has already been proposed by Després for these irreducible luxations. M. Polaillon advocates subcutaneous division of the fibrous bands, and has been able by this means to reduce a luxation of four months' standing, and recommends that whenever an extending weight of 200 or 300 pounds is unable to displace the head of the bone, the adherences should be divided, antiseptic precautions being taken, after etherizing the subject. —*Revue de Chirurgie.*—*Medical News.*

OBSTETRICS.

Critical and Experimental Researches on Uterine Sutures in Their Bearing on Cæsarean Section.—Incision into the gravid uterus generally causes a copious bleeding and a gaping of the edges of the wound, both of them occurrences that threaten the life of the woman, and in case of recovery give rise to an unfavorable prognosis in subsequent pregnancies (premature rupture of the cicatrix and escape of the fœtus). In order to avoid these evils the edges of the uterine wound have long been brought together by sutures.

The author has collected seventy-five accurately recorded histories of cases, and in addition twelve cases, of which the notices were brief, in which the edges of the wound were brought together by suture, and adds one case observed by himself. Of the eighty-eight cases, sixty-eight were operated on in Europe, sixteen in America, and one in Australia; twenty-nine of the cases recovered, fifty-seven died, and of the remaining two the result was not given. Thus 33.7 per cent recovered (twenty-nine in 86). To this number of recoveries are added six cases in which, although the result was fatal, the cause of death was unconnected with the operation; there are further six cases to be excluded, in which the operation was performed *in extremis*, on account of carcinoma and anæmia, and ten cases in which no cause of death was given.

In twenty cases the operation was performed on account of various pelvic tumors, of which two recovered; if these cases are excluded we have fifty per cent of recoveries. The average percentage of mortality after Cæsarean section without sutures was 54.9, a higher one than Cæsarean section with sutures. Porro's operation shows a mortality of fifty-eight per cent. The causes of death were principally peritonitis, shock, inanition, and anæmia.

The material used for the sutures had no special influence upon the result of the operation, neither had the number of stitches. In fifty fatal cases one suture only was applied in six of them; of twenty-six cases that recovered, in one case was one suture only used, and in three the number was unknown.

In all the cases the bleeding ceased on application of the sutures. This result was obtained just as well with a smaller as with a larger number. Besides this, the application of the sutures had an influence on the contractility of the womb. Secondary hemorrhage is possible, but is of rare occurrence. The author sums up his conclusions as follows:

1. The percentage of recoveries after Cæsarean section where the edges of the uterine wound are brought together by sutures is nearly the same as in those cases in which sutures are not used.
2. The application of sutures is the best and surest method of stopping hemorrhage.
3. The material used in the sutures plays no important part.
4. Sutures tied with the ordinary knot are quite sufficient.
5. A greater number of sutures answers the purpose better.
6. Secondary hemorrhage is possible, but is very limited; it depends on the number of sutures, their depth, and the degree of tension in tying.

The author has also endeavored to solve these questions by experiment. Laparotomy was performed on pregnant rabbits: a cornu of the uterus was raised, incised on the convex side for a distance of from two to three ctm., and the contents expressed. Eventually a second incision was made. The wound, which had contracted to a length of from one to one and a half ctm., was then closed by sutures, and the ligatures were cut off short. Upon this being done, the bleeding from the wound-edges ceased, but the cavity of the cornu was replaced in the abdominal cavity. The second cornu, when it contained a fœtus, was submitted to the same treatment. The abdominal wound was closed with silk or catgut sutures. After some time the animals were killed, the cornua of the uterus were then removed and preserved in "Müller's" fluid. The material used for the sutures was fine catgut (No. 00), or fine silk. The total number of experiments performed was sixteen. In those in which catgut was used as the suture material (ten in number) the animals all recovered. In the remaining six silk was used, and in three of these a fatal result followed in consequence of peritonitis diffusa. In two cases the edges of the wound gaped between the stitches.

The animals were killed from the fifth to the fifty-ninth day after the operation. In four cases in which recovery took place, no trace of peritonitis was present. In nine others traces of this affection in various stages were found, with or without adhesions to neighboring organs. The uterine wound was closed, and the site of the suture recognizable by irregular elevations. The cornua were pervious, the mucosa over the wounded surface quite normal. The site of the wound was unrecognizable in animals killed later; only in two cases was the site ascertainable, on the inner surface, by depressions two to three mm. broad, corresponding to the external elevations.

Microscopic examination in freshly-killed rabbits showed a small-celled infiltration of red blood corpuscles through the whole thickness of the uterine wall and the edges of the wound; in the latter white blood corpuscles were also found; upon the serosa of the wound an infiltration of large round cells were met with. The catgut threads were very much thinned, and upon the external surface were covered by a new growth of large round cells.

The later the animals were killed, so much the more were the small round cells (red blood corpuscles organized into fibrous elements, with newly-developed blood vessels. The muscular fibres looked as if torn asunder at the site of the wound. The thickened serosa consists, at the injured part, of fibrous connective tissue, and in part of round-celled elements; the mucous membrane was everywhere covered by cylindrical epithelium.

In animals killed forty-five to fifty-nine days after the wound was scarcely recognizable on account of a new growth of muscular fibres.

Conclusions.—1. When the edges have been brought together by suture, complete repair of the uterine wall takes place. This repair consists in adhesion between the wounded surfaces and the formation of a cicatrix. Upon the serosa are formed elevations in which the knots lie hidden.

2. Interrupted sutures are every way adapted for the purpose. They are easily applied, do not become loose or untied, approximate the edges of the wound, and may be relied on to arrest bleeding from its edges.

3. Diffuse peritonitis occasionally manifests itself, in which case adhesions will be found in the neighborhood of the wound, of the various organs with the abdominal walls. Even the cornua of the uterus—at any rate, those parts near the wound—grow to the neigboring organs. In other cases the peritonitis is limited to the surface of the wound, and no adhesions take place.

4. Ten days after the operation neither the sites of the wound nor of the sutures are recognizable on the mucous membrane, sometimes, but only rarely, depressions are formed on the inner surface of the uterus, by which the uterine wall is thinned.

5. Carbolized catgut is suitable for the purpose.

Finally, the author, in comparing his experimental investigations with statistics and clinical data, comes to the following conclusions: In ordinary Cæsarean section the edges of the uterine wound ought to be brought together by sutures, as thereby the dangerous hemorrhage from the lips of the wound is most certainly stopped, and the union of the divided surfaces assisted. Lister's carbolized catgut is quite sufficient for the purpose.—Dr. A. E. Schmidt *Deut. Med. Zeit.—Medical Press and Circular.*

UTERINE TUMORS.—Dr. H. O. Marcy, of Boston, delivered an instructive lecture on this subject before the late meeting of the American Medical Association, from which we make the following abstract:

A report of this paper can not well be given, as it was intended particularly for members of the association and was illustrated by views thrown on a screen from a solar microscope. These views were very clear and perfect, showing the peculiar formation of various tumors and the influence they had upon surrounding parts in the abdominal cavity. They were composed of sections of the uterus surrounding the tumors (which had been removed by Dr. Marcy) and prepared with great care by his assistant for the express purpose of microscopic investigation and practical illustration.

A Remarkable Monument. — The method by which the lecture of Dr. H. O. Marcy, on uterine tumors, was demonstrated, the means used being a solar microscope and stereopticon, excited a large degree of interest, owing to the wonderful clearness and brightness of the subjects cast upon the screen. It seemed to be the general opinion of those present the new solar instrument was truly a remarkable improvement over the ordinary steriopticon method of illustration. After the termination of the lecture, in obedience to the expressed wish of many of the physicians, the inventor, Dr. L. D. McIntosh of Chicago, explained fully the principles of this solar microscope, an explanation that was listened to with much interest and close attention. As it is a subject that will be of interest to many scientifically disposed people an endeavor will be made to explain, as fully as possible, the principles upon which it is constructed, and the several uses to which it can be put. This solar microscope may truly be considered as a great aid to scientific investigation. By its aid physiology, pathology, and histology can be studied with illustration of genuine sections. The circulation of the blood can be mirrored forth with startling distinctness; images of living animalculæ, minute insects and aquatic animals with all their motions thoroughly portrayed, and in cases where they are transparent, the beating of the heart and movements of the internal organs are widely shadowed forth upon the canvass in a degree of perfection almost beyond belief. This valuable instrument is manufactured by the McIntosh Galvanic and Faradic Battery Company of Chicago, and was invented, as previously stated, by Dr. L. D. McIntosh, who is alse the inventor of the galvanic and faradic battery that bears his name. It is a combined instrument and can be used as an ordinary monocular, solar microscope and as a steriopticon. It is, however, very simple in its arrangement, there being no complicated parts that are liable to get out of order. Indeed, to use a rather hackneyed expression, albeit a true one, a child could work it. The steriopticon proper is similar in appearance to the ordinary stereopticon, sunlight being used instead of artificial light. When the stereopticon objective is removed, and the working part put in place of the stereopticon objective, the solar microscope is then ready for use. If it is wished to be converted into a monocular, the working part is taken off and placed on a stand provided for the purpose. This combination adds much to the value of the invention, and its utility is very largely enhanced. Its use is not confined to physicians and scientists, for it is an instrument that should be in all educational institutions of the higher grades; in fact, in these days of general scientific study, no college should be considered as fully equipped when its presence is wanting. It is indispensable for the full illustration of the natural sciences, such as anatomy, physiology, astronomy, geography, botany, zoology, and so forth. Its use as a means of instruction is of great value, as an object can be shown with equal facility to a large class or audience as to a single person. In the matter of economy, without taking into consideration the superiority of its work, it is in advance of an ordinary stereopticon, as sunlight is cheaper than artificial light. Another feature is that it is exceedingly portable and can be placed in position in a very short time. The ordinary power is that of 500 diameters, although with higher objectives, it is capable of attaining a power of 1,500 diameters. Taken altogether, it is truly an invaluable invention, and its use will be of an extended nature. It should be stated that a number of physicians have requested Dr. McIntosh to give another exhibition and he has consented to do so to-day, although no definite place has been secured for the purpose.

At one o'clock the association adjourned after passing a unanimous vote of thanks to Dr. Marcy for his entertaining lecture.—*Proceedings of American Medical Association*

MYOTOMY AND SUPRA-VAGINAL AMPUTATION OF THE UTERUS.—Olshausen, in consequence of his own favorable results, and those of others, particularly those of Schröder, warmly contends in the *Deutsch. f. Chir.* for the intra-peritoneal treatment of the pedicle in uterine operations. In pediculated myomata the pedicle can be treated as in ovariotomy. The course must be different, however, in uterine tumors with broad bases, the ligature of which in several parts is either no longer possible or requires very much time, and is, at the same time, not answerable to the purpose, on account of the not inconsiderable hemorrhage from the points of puncture.

Herr Olshausen recommends the method of treatment practised by Schröder, viz., the cutting out of a wedge-shaped piece from the neighborhood of the base of the tumor, and bringing together the surfaces thus formed by suture. In cases in which, on account of the tumor implicating the uterus, or developing into the broad ligament, the excision of such a wedge-shaped piece is not possible, Olshausen has encircled the base twice with success, with a strong ligature (India-rubber tubing, 5-8 mm.), fastened it by stitches, and then left it in the abdominal cavity The first case was one of fibrid tumor, nine kilog. in weight, with a stout pedicle, eighteen cm. (cir.) in circumference; the second was a case of amputation of the supra-vaginal portion of the uterus.

The patients recovered, and experienced no inconvenience from the india-rubber tubing (previously well disinfected) that had been left behind. If this method or procedure is not, from a surgical point of view, idealistic, it is certainly the simplest and most practical, and for this reason may fairly take its place by the side of other methods, not excepting Schröder's wedge-shaped excision.

Olshausen has abandoned, for about the last two years, the process of washing out the abdominal cavity with thymol solution, as formerly recommended by him, as too dangerous. He himself has witnessed shock and death follow it. —*Medical Press and Circular.*

DEPAUL ON A METHOD OF PREVENTING THE NECESSITY FOR INDUCED ABORTION.—Dr. Depaul, in one of his recent lectures, recommends in certain cases, iodide of potassium, regulated diet, and bleeding to diminish the size of child, and to prevent the necessity of bringing on abortion. He cited the following case in support of his recommendation. Thirty years ago, a merchant had married a very rickety wife, who became pregnant soon after marriage. A medical man was consulted, and scarcely knowing what to do under the circumstances, he asked that M. Paul Dubois might be called in, who was obliged to perforate the cranium. A second pregnancy occurred, and on this occasion, M. Dubois sent the young woman to M. Depaul; she was then four or five months advanced in pregnancy. Her pelvis measured from 7½ to 7¾ centimetres. He told her that it was necessary, in order that she might have a living child, gradually to diminish the quantity of food she took, and to subject her to a rigorous diet. She was bled many times, and gradually lessened the proportion of food, according to his directions. He followed the progress of the pregnancy, and especially the increasing dimensions of the child. The eighth month arrived, and it appeared to M. Depaul that until then, the child had grown very little. He let things take their course, thinking that it was necessary to bring on premature delivery. Finally, the woman came to the end of the ninth month, and Dr. Depaul was sent for. The head soon cleared the sacro-vertebral angle, and the delivery was easy. The child, a boy, lived; he was very small, but was quite strong enough to be brought up. The same person again became pregnant for the third time. She did not communicate the fact to M. Depaul, and it was only when she was eight months and a half gone that he was sent for to attend her. It was too late to have recourse to the means used in the previous pregnancy, and M. Depaul was obliged to perform cephalotripsy. In a fourth pregnancy, he received notice in good time. The regimen used in the second pregnancy was again successful. The child lived, and is still alive. A fifth time he was only called in at the moment of delivery, and only succeeded in removing the child by cephalotripsy. M. Depaul considers this case to be very conclusive, and has likewise collected a certain number of similar facts which induce him to affirm that this method may have a certain degree of success, and to recommend it in cases of vicious conformation of the pelvis, so as to avoid, as far as possible, forced abortion.—*Brit. Med. Jour.*

ALKALINE TREATMENT OF STERILITY.—Charrier (La France Medical, May 24, 1881) has recently called attention to sterility produced by a case which he regards as but little known, but which has received much attention in the United States, namely, acidity of the utero-vaginal secretions, which may be acid enough to redden litmus paper. Second, that this acidity may prove an obstacle to fecundation, as spermatozoa did in a medium even slightly acid. Third, to remedy this normal acidity of the utero-vaginal liquid, an alkaline treatment (alkaline drinks and baths) should be used, and lukewarm alkaline injections. Fourth, that this acid state having been corrected, and the secretions having become neutral, the obstacle to fecundation is removed, and conception may take place. Fifth, that this disappearance of acidity under the influence of alkaline treatment explains the success with which sterility has been treated at alkaline and sulpho-alkaline watering places.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, July 1st, 1882.

The Week.

THE CINCINNATI BOARD OF HEALTH.—The people of this city are long suffering and their patience passeth all understanding. For lo, these many months we have been afflicted with an epidemic of smallpox, and even now the wail goes out from many a grief-stricken parent because of an epidemic of scarlet fever. Measles and chicken-pox are also present, but alas! shall we not say all these are but as light afflictions in comparison with that of a health board constituted of such elements as we find in this department of our city government.

Sanitary work of the Napoleonic type is the word borne to us from the health office, Just what kind of an eruption that is we are unable to make known to our readers, but as nearly everything that emanates from that quarter is more or less pap–ular, we suppose the Napoleonic affliction is of that character.

As a strictly hygienic measure it is regarded as perfectly safe to employ the health officer either as attending physician or consultant in all cases of variola or varioloid. Such cases are warranted to do well without either yellow placard or public advertisement in the daily press. These cases, by some clairvoyant or other means unknown to the writer and not laid down in text-books, are made to assume a non-contagious character. We are led to suppose the eruption does not get beyond the pap–ular stage.

Posting a yellow placard in an out of the way out-house, behind doors, shutters and other screens is a common device used by sanitary officials to stop smallpox at the pap–ular stage.

Visiting houses for fumigation, disinfection, etc., several weeks and even months after the occupants have recovered and been engaged in their daily avocations is one of the prophylactic means used to prevent an outbreak of anything not pap–ular.

With our hands on our mouths and our mouths in the dust, we are ready to cry: What great sin have we committed that we should be afflicted with this plague?

THE Cincinnati Medical Society has adjourned until the first week in October.

Miscellany.

THE PLETHYSMOGRAPH.—This is an apparatus for detecting the variation in the size or dilatation of a body. For example, by its use the dilation or contraction of the human hand, arm, or other organ can be ascertained. The hand or organ to be tested is placed in a test-tube, a stylus, rotating cylinder, etc.

At a meeting of the Massachusetts Institute of Technology, Dr. Bowditch proceeded to exhibit this use of the instrument. For this purpose an assistant placed his arm in the apparatus, and the arm was then surrounded by water heated to a blood heat. The connections having been made, Dr. Bowditch waited until the style was describing a line nearly horizontal, and then directed the assistant to multiply twenty-three by seventeen in his head. As soon as he began to think this out the style rose rapidly and remained up until he had finished the computation, when it fell, thus showing that during this process a certain amount of blood had rushed away from the arm. When the style began again, after a minute or two, to trace a line nearly horizontal, the assistant was directed to multiply thirteen by twelve. During this process the style rose, but not nearly as much as in the former case, showing that a smaller quantity of blood left the arm in this case than in the preceding.

Dr. Bowditch then related the story that a friend of Prof. Mosso, who claimed that he could read Greek as easily as he could Italian, had his arm placed in the apparatus by the professor, who presented him successively with an Italian and Greek book to read. When reading the Greek the style rose very much more than while reading Italian, and thus the instrument demonstrated that the friend was mistaken in regard to his powers, and that it was much easier for him to read Italian than Greek.

In answer to some other questions, Dr. Bowditch said that the results shown by the instrument in its present state of advancement are purely qualitative, and that no quantative determinations have been made; also, that, because we have a certain amount of blood leaving one arm during a mental process, it would not be safe to assume that the amounts of blood leaving one arm during certain mental processes were proportional to the amounts leaving the whole body.—*American Medical Weekly.*

WINTER APOPLEXY. — During the rigorous winter of 1879-80, Dr. E. Bax observed some accidents of an apoplectiform character of which he has described the mechanism and symptomatology in a paper read at the Medical Society of Amiens, April 1st, 1880. He arrived at the following conclusions. Cases of apoplexy are more frequent during the winter than during any other season of the year; the more intense is the cold, the more numerous are these cases. The cold renders the surface of the body anæmic, augments the arterial tension, and consequently produces congestion of the viscera, and especially of the encephalon. This congestion, if it do not kill, may give rise to hæmorrhages which are not considerable if the vessels of the encephalon are fairly healthy. It is likewise possible that the anatomical constitution of the blood becomes changed under the influence of cold, and that this change is allied to the pathological phenomena observed. Dr. Bax's observation on the effect of the intro-pelvic action of cold in producing apoplexy is interesting; but the idea is not new in this country.—*British Medical Journal.*

CRITERIA OF INSANITY.—One of the pupils of Esquirol asked his teacher to furnish him with a sure criterion for distinguishing the limit that separates reason from insanity. The next day Esquirol invited his pupil and two individuals, one of whom was most correct in his appearance and in his language, while the other was very loquacious, full of himself, and of his future. When taking leave the pupil reminded his master of the criterion which he asked of him on the previous evening. "Answer the question for yourself," said Esquirol. "You have just taken dinner with a madman and with a sane individual," "Oh!" answered the pupil, "the problem is not difficult; the sane man was that distinguished and well-informed man; as to the other he was a chatterer and a fool who ought really to be shut up." "Ah!" replied Esquirol, "you are making a great mistake; the one whom you took to be so very wise, believes himself to be God the Father, and affects in his manners the reserve and dignity which he believes belongs to his position; he is a patient at Charenton. As to the young man whom you took for a fool, in him you see one of the most illustrious of French authors—he is M. Honoré de Balzac."—*British Medical Journal.*

THE CEREBRAL CIRCULATION. — Francois-Frank (*Gazette des Hopitaux*) has been making some experiments upon the intracranial circulation during the arrest of the heart. It is well comprehended that when the blood ceases to flow to the brain that no vacuum can exist between the walls of the skull and the brain itself. It is necessary that something should replace the arterial blood. It was not the cephalo-rachidian fluid, as was easily demonstrated by a ligature upon the spinal cord preventing its return to the brain. By the aid of registering apparatus, he demonstrated that on the side of the sinus the pressure was equal to the general cephalic pressure. During the arrest of the heart the veins swell, especialy in the deep parts, and particularly in the cranial cavity. The arterial anemia is replaced by a venous congestion.—*Journal of Mental and Nervous Diseases.*

THE ACT OF ROTATION. — Bechterew (*St. Petersburger Med. Wochenschrift*) has made a series of experiments upon dogs in regard to rotation of animals on their long axis after injuries to the brain. He arrives at the conclusion that not only injury to the middle and posterior cerebellar crus, and deep injury to the medulla oblongata, produce rotation, but that lesion of the inner part of the crus cerebri in its whole course, from the thalamus to the pons, can also generate it. When the inner part of the crus cerebri is injured the rotation is about the uninjured side, whilst a lesion of the external layer of the crus cerebri causes rotation about the side of injury. The rotation about the long axis is produced through a lesion of those fibres which go from the cerbellum through the upper part of the crus cerebri to the corpora quadrigemina.—*Journal of Mental and Nervous Diseases.*

PHILADELPHIA HOSPITALS.—According to a local paper, a man who had been carried to a Philadelphia hospital while suffering from the effects of a severe contusion, was asked if he had been treated kindly there. "Considering all things," he answered, "I have no right to complain. They amputated both my feet, removed my clavicle, cut off my right arm, trephined me, took out a piece of my inferior maxillary, sawed my left os innominatum in two, and were about to exsect five or six ribs, whn a fire broke out in the establishment, and the police got away with the rest of my body in safety."

Original Communications.

SOME GENERAL REMARKS ON OTOLOGY

By W. W. Seely, M.A., M.D.,

Professor of Ophthalmology and Otology in the Medical College of Ohio.

(Prepared for the Ohio State Medical Society, Columbus, June 14th, 1882, but not read, the author returning from the meeting on account of illness.)

Treatment of diseases of the ear is no exception to the treatment of diseases of other organs, and we all know that it, like the Ptolemaic system, is subject to occasional disturbance.

Till the era of catheterization, the therapeutics of aural diseases were in as imperfect a state as those of ocular troubles in pre-ophthalmoscopic days. Ophthalmology seemed to clear the way for otology and both realms are now pretty well out of the grasp of quackery.

Seventeen years ago I began the treatment of middle ear affections by means of the catheter, making the first passage of it, so far as I am aware, for therapeutic purposes, in this part of the country, and for many years it was the custom to inject various fluids and vapors into the tympanic cavity; irritants and absorbents, so-called, for the chronic varieties; astringents for the acute; in a word making treatment of this mucous membrane quite an accurate copy of that for the conjunctival.

For quite a time before I was aware it had been recommended, I devised a probe of whalebone for dilating strictures of the eustachian tube, copying the treatment of nasal duct stricture, and had the usual experience of inflating the necks of two or three patients, till I hit upon a probe made of fiddle-string. During my early experience, there was rather a reaction against the idea that middle ear affections depended chiefly upon throat troubles, and the treatment of the latter played an unimportant role.

Following the lead of ophthalmic surgery, *paracentesis of the membrana tympani* early came into vogue, and many punctured all membranes where secretion in the drum cavity could be diagnosticated. At the present day in my own practice, and, if I am not in error, in the practice of most, intra-tympanic injections play a very unimportant role, in fact are the exceptions, and the state of things now and that of a decade and a half ago may perhaps represent the extremes of fluctuation, the truth lying somewhere between. Even the catheter itself has been found to be an instrument patent alike for good and evil, for undoubtedly its abuse has been great, and doubtful results must be recorded from it even in skilled hands. It came near being sung of as the wrath of Homer's hero of old, which paraphasing Pope would run——

Catheter's harm, to ears the direful spring
Of woes unnumbered,——

till a second rescuing reaction set in, and to-day it is recognized that naso-pharyngeal affections bear quite the same relation to middle ear troubles that affections of the Schneiderian membrane bear to lachrymal troubles, and the eustachian tube and middle ear stand a show for fair treatment.

While the nasal and naso-pharyngeal mucous membranes in the beginning of the reaction were badly abused by injections anterior and posterior, and astringent swabbings with resentments in the shape of acute inflammations of the middle ear, milder means have come in.

Again, we are recognizing more and more the nature of mucous membrane troubles, learning at the same time that what is seen on the posterior wall of the pharynx is but a portion of the picture hidden in the naso-pharynx, and of which it is often but an extension. If the nature of catarrhs is parasitic, as I take it to be, violent means are out of place, and astringents and caustics must fall for lack of basis, crowded down by remedies that have a toxic effect on parasitic growths.

At the present day the voice of the profession is opposed to indiscriminate puncture of the membrana tympani. It would seem plausible that, given a tense membrana tympani, puncture would be in place, and doubtless often would be if there were no other mode of relief, such as is offered by the eustachian tube. Paracentesis membranæ tympani doubtless sprang from paracentesis corneæ as the latter from paracentesis thoracis, and perpetuates the error of the ocular operation, and I have always claimed and taught that paracentesis of the membrana tympani had little to support it except the mistaken function of the same operation on the eye, *i.e.*, to evacuate the morbid products in the cavity. I have never made a paracentesis of the drum-head simply because I have been able *to relieve intra-tympanic tension without it.* I have made paracenteses of the cornea by the hundred, *not for the purpose of removing morbid products from the anterior chamber*, but because it was the quickest and most efficient means *of relieving intra-ocular tension.* At present the operation, small in itself, but so dreaded by patients, has but little more than an historical interest to me, since we possess in the myotics such efficient and pleasant relievers of exaggerated intra-ocular tension.

The introduction of boracic acid for the treatment of purulent otitis externa and media is one of the most important therapeutic contributions to modern otology.

As you are all aware, suppurative otitis media chronica has always been an approbrium otologicum. With the ideas of to day, and the modes of carrying them out, this state may be fairly regarded as under our control.

Assuming a parasitic basis for suppurative otitis and practically all that is needed therapeutically is the parasiticide.

Cleanliness, with the absorbent cotton and probe (not the syringe), along with inflation of the middle ear, put the parts in the proper condition for the toxic agents, if any are needed. In no condition does blind zeal do more harm than in otorrhœa, and hence in no disease may we look for more examples of what the Germans call an *Artzenei—Krankheit.* Often in small children cleanliness and inflation suffice, and in no uncomplicated case should medicines be used till their necessity is demonstrated. *A patulous eustachian tube* is well nigh a *sine qua non* of success, hence the extreme importance of inflation in cases of closure; in others it dislodges the secretion in the middle ear, bringing it into the perforation where it can be entangled in the cotton and brought out. I take special pleasure in calling attention to this point at a meeting of this Society, as at a former meeting (June, 1872) I called the attention of the Society to it, and in a notice of my report in the *Medical Press and Circular* by a Dr. Pennefeather, of London, he stated that a man who could make such an assertion should be suppressed as dangerous. Pennefeather is lost to fame, while the process is a matter of every day practice the world over.

With our present ideas of the underlying cause of the suppuration it is not wise to be over-solicitous about the state of the mucous membrane, even be that state a polyposed or granular one.

Inflammation is not an entity to be destroyed by astringents and caustics. Even polypi will disappear under the dessicating effects of alcohol and a fungous or granular state under boracic acid.

Large numbers of cases with a fungous condition of the bottom of the ear, in which astringents and caustics were formerly so freely applied, readily recover under boracic acid treatment.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of June 19th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*	W. H. WENNING, M.D., *Secretary.*

DR. C. F. LOCKE read the following:

Varicocele.

Varicocele is a disease of young adult life and of quite common occurrence, when Holmes states that one male adult in ten is troubled with it. Although it is of very frequent occurrence that seems to me a large estimate.

In most instances the veins of the left side are troubled. Various causes have been assigned: that the left testicle is more dependent than the right, and that the sigmoid flexure presses on the veins when distended, probably are good reasons; a majority of such persons are inclined to be constipated. Excessive venery and masturbation are given by Bryant as frequent causes. The veins of both testicles begin in quite a large plexus, (spermatic plexus or plexus pampiniformis) and pass to the external abdominal ring where they coalesce to two veins passing one on either side of the artery through the inguinal canal, then behind the peritoneum; on the left side they pass behind the sigmoid flexure, soon they form one vein, the right emptying in the inferior vena cava at an acute angle; the left emptying in the left renal vein at nearly right angles, where very frequently the valve is wanting according to Dr. White. Beside these facts it will be remembered the left inferior phrenic vein coming from above empties in the left renal vein very nearly opposite where the left spermatic comes from below. This fact, with the others given, seems to me to make the cause reasonably plain so far as mechanical forces are concerned. The veins in the scrotum are dilated and sufficiently lengthened to become tortuous, the mass feeling somewhat like a bunch of angle-worms. Their coats, as also the surrounding connective tissue, is generally thickened, but the muscular fibres of the veins proper are neither increased in size nor numbers. Nearest the testicle the veins are generally largest. The size of the tumor varies from one enlarged vein to filling of all of one or both sides of the scrotum, hiding the testicles, as the case may be single or double; the latter however is extremely rare. The testicle lies behind the veins and some impulse is occasionally felt on coughing, but not like that of a hernia composed of bowel. Generally varicocele is easily recognized, but I read of a distinguished London surgeon opening the scrotum expecting to find a hernia. Prognosis in such cases is generally not grave, probably a majority of individuals with varicocele would not suffer much if good care was taken of their diet and bowels; so the suggestion of an operation should not be rashly proposed. Some atrophy of the testicle often occurs but probably it is frequently due to previously existing inflammation, perhaps a severe epididymitis or traumatic injury.

The different operations for radical cure are numerous, but all attain the same final result: destruction of the veins.

During the period of uneasiness and a moderate amount of swelling a suspensory bandage may be of benefit; one which laces up in front, with a moderate degree of pressure on the veins, and having a tape fastened to the lower end so it can be raised and fastened to a belt surrounding the waist is probably as good as any. The scrotum may be lessened in size so as to make some compression on the tumor by drawing it through a flattened silver ring covered with soft leather; but such a procedure has been followed by sloughing. A well adjusted truss with a suitable pad made to press on the external abdominal ring has been used with success, but seems to me rather calculated to do harm by increasing the already obstructed circulation, beside it is liable to get out of place or increase pain. Mr. Curling, however, gives instances in which cases have been cured by such measures carried out for several months. An incision in the wall of the scrotum to expose the veins and a ligature thrown round them has been discarded on account of disastrous results. The ordinary ligature applied subcutaneously has been used with success but some time is often required for it to slough away. Lee's operation, consisting of a needle passed between the spermatic cord and veins and a figure of eight thread over its ends and outside of the scrotum, has been used, but Grant says diffuse inflammation and sloughing of the scrotum with phlebitis, pyæmia, embolus and death have occurred. Erichsen reports two deaths from the twisted suture; Sir E. Howe had one nearly fatal case; Gross had one death after ligature; Escallier gives two cases of death from phlebitis; Sir B. Brodie used to divide the veins subcutaneously and apply pressure. January 15th, 1881, Mr. Lee read a paper in which he advocated the removal of a section of the scrotum and subcutaneous division of the veins which are to be obliterated. Dr. Jno. Duncan, of Edinburgh, uses ligatures of catgut surrounding only the veins subcutaneously, cutting the ends short and slipping the knot in the scrotum to be absorbed, hermetically sealing the openings. Dr. Schedes uses three catgut ligatures, about one-half inch apart, on the enlarged vessels and bringing them out in front ties them over a stiff drainage tube. Dr. Agnew passes a strong accupressure needle between the vas deferens and enlarged veins from the anterior through the posterior wall of the scrotum, then passes a needle armed with a double ligature through the same holes between the veins and the lateral wall of the scrotum, the needle being slipped off the loop is passed over one end of the needle and the ends tied over the other firmly. In six or seven days the needle is to be slipped out and the thread is of course loose. I have just tried it in one case and the needle became covered with dried pus, blood, etc., and did not slip.

The most ingenious operation, to my notion, was published in the LANCET AND CLINIC, vol. xlii., page 172, by R. J. Levis. He surrounds the veins subcutaneously in the ordinary method with a strong ligature bringing both ends out the anterior opening, then passes them through the centre of disc of metal, gutta percha, or what is handiest, a silver quarter; then ties them over a piece of good-sized rubber tubing, the elasticity of which keeps up the tension of the ligature making it more rapid, and if it be desirable to remove the ligature at any time it can easily be divided. I have used this method and like it very much.

Mr. Pearce Gould gives the following rules for operating: 1. When the testicle is atrophying. 2. When the varicocele is double, especially if an examination of the semen shows an absence of spermatozoa, or the patient being married is sterile. 3. When the opposite testicle is lost or useless from orchitis, epididymitis, tumor or injury. 4. When the varix is large and increasing in spite of palliative treatment. 5. When the varix causes much pain or interferes with proper exercise and necessary work. 7. When the varicocele prevents acceptance in either of the government services.

DISCUSSION.

DR. MUSCROFT confessed that he had never operated for varicocele and, with his present experience in the treatment of this affection, he never expected to find it necessary to interfere surgically. He had so far succeeded with ordinary hygienic treatment, the use of a suspensory bandage and mild astringent washes—frequently simple cold water—to the scrotum. As masturbation is a frequent cause of the disease the moral treatment of the patient in earnestly endeavoring to get the latter to desist from this habit will go far in securing a cure of this affection. In the speaker's opinion it is not proper to obstruct the veins by an operation when means more simple can effect a cure. It is true that the older surgeons of this city have all operated in this way, but phlebitis is liable to occur at any time. All the different methods of surgical treatment enumerated by the essayist were known to the speaker, and he might add another more recent treatment, the injection of a seven per cent. solution of hydrate of chloral in three or four different portions of the vein, which is said to coagulate the contents of the veins almost immediately. Only slight orchitis may result and so far all patients are said to have recovered completely. But the question arises what becomes of the testicle when nutrition is cut off in this manner? This is a most important point and to his knowledge no facts bearing on it have been stated. In his estimation the operation is only justifiable after plenty of cases in which no injuries have resulted from an operation are recorded. Until then, if a cure can be affected without operative interference it can hardly be considered justiable.

DR. RANSOHOFF said the subject on account of the frequency of occurrence is one of great importance. He had seen many cases that undoubtedly required operative interference. The enormous pressure on the secretory structures of the vessels will cause atrophy sooner or later; if this atrophy of the testicle can be avoided by a timely operation it will be good policy to interfere surgically. In severe cases of varicocele, in some of which the scrotum hangs down half-way to the knees, the pains are most excruciating, especially if the patient is brought on his feet, and are second only to the severest forms of neuralgia. Therefore, in order to relieve these pains by obliterating the veins an operation will oftentimes be necessary. What plan must be followed? It is known that the simpler the operation the less permanent will be the benefit to the patient. Thus if only a ligature be thrown around one part of the vessel, it will do but little good and will generally require another operation afterwards. Whatever will accomplish a complete obliteration of the veins will prove most satisfactory in the end. Although the complete excision of the veins has been mostly discarded, this method has been recently reinstituted, especially by Volkmann. The speaker himself had operated on three cases. Although the essayist declared the operation proposed by Dr. Levis as the most ingenious, he (Dr. R.) gave preference to Ricord's method of ligating the vein in two or three places, namely by passing two needles, each armed with a double loop, through the scrotum, one needle passing above and the other below the veins. Afterwards the end of one ligature is drawn through the loop of the other and the vein thus inclosed between the two ligatures subcutaneously. No suppurative inflammation follows and the veins become entirely obliterated; no atrophy of the testicle will result. The nutrition of this organ is improved because the blood courses through other veins and by this collateral circulation the nutrition of the testicle is positively placed on a better basis.

DR. G. S. MITCHELL remarked that he was

surprised at two statements made by the previous gentleman: 1. That varicocele is so extremely painful a disease; 2. That it therefore so often requires an operation. Sir Astley Cooper says varicocele should scarcely receive the title of a disease as the symptoms are usually so mild. Other surgeons quoted in Holmes' System of Surgery express the same view and maintain that many cases have been operated where a cure could have been affected by simpler means. The speaker, although he had but limited experience, never saw a case so severe as to require an operation, but always found treatment with the suspensory bandage, application of cold, etc., all sufficient. He never expected to operate for the affection, but if obliteration should be necessary he would prefer the performance of this operation by electrolysis, since Beard and Rockwell have reported some successful results by this method.

Dr. Muscroft said that he understood Dr. Ransohoff to say that atrophy of the testicle was caused by the larger amount of blood thrown into the vessels. In the speaker's estimation the reverse is true as the blood becomes stagnated and thus cuts off nutrition.

Dr. Ransohoff replied that there is an increase in amount of blood in the parts but the fluid is of such a quality as to do no good, the circulation is sluggish and therefore inefficient in affording the proper nutrition to these organs.

He objected to the statement made by the other speaker that painful varicocele is rare. Pain in this affection is at times as severe as neuralgia in other parts. Such mild treatment as cold baths, etc., does no good and even obliteration of the veins will occasionally fail to give relief. He was surprised at the statement made that the scrotum was not enlarged. This enlargement was very common and one part of the treatment often consists in removing a part of the scrotum. Patients with this enormously distended sack often suffer greatly in summer from the intertrigo caused from the friction of the parts. Possibly the speaker was more fortunate in getting the severer cases under his notice, but he met with such instances every year where an operation was undoubtedly indicated.

Extirpation of Testicle with Tunica Vaginalis for Tuberculosis.

Dr. Ransohoff said that as the subject of varicocele had been brought up for discussion he thought it might be interesting to report a case of castration for tuberculosis, the specimen of which he would herewith present to the Academy.

The patient, who was operated on a few days ago, is thirty-four years of age. He had been under treatment for eight years. He had had a hydrocele which passed away; the left half of his scrotum was much enlarged so as to give great inconvenience. Pain subsided when the patient lay on his back. The epididymis could be felt hard and distinct, the hydrocele was not large, the amount of fluid being not more than two ounces. As a history of tuberculosis in the family (one brother having died of consumption) established the tuberculous nature of the swelling, and the extreme hardness of the epididymis confirmed this suspicion, the speaker was induced to perform castration. After opening the scrotum the tunica vaginalis was found enormously reddened on its internal surface and presented distinct evidences of fluctuation. The intense hyperæmia and congestion induced the operator to remove the tunica vaginalis along with the testicle. He had never seen any particular importance attached in text-books to the removal of this sac and therefore dwelt especially on this fact. It is known that the serous membrane covering an organ is also likely to become affected when the latter is diseased; for this reason he also removed the tunica vaginalis, as the dangers of the patient are not increased by the operation. Ordinarily the tunica cannot well be removed, but the extraordinary thickening of this membrane in the case mentioned facilitated the operation in this instance.

Dr. Cleveland enquired whether the disease would be likely to reappear. Two years ago he castrated an individual where the testicle had been enlarged, hard, nodulated and painful. He considered the organ tuberculous, although it might also have been a cancer. He had not the opportunity of determining the nature of the enlargement microscopically as the specimen was carried off by a member of the feline family. At any rate the patient who had been very much emaciated until the testicle was removed improved after the operation, gained flesh and has been well ever since.

Dr. Ransohoff replied that he was very hopeful because of three cases of castration which he reported to the Academy last year, one who had been operated on first by Dr. Conner and a year later by himself, had regained good health and now weighed two hundred pounds.

CINCINNATI MEDICAL SOCIETY.

Meeting of June 20, 1882.

GUSTAV BRÜHL, M.D., *President*. W. H. M'REYNOLDS, M.D., *Secretary*.

Dr. Zenner read the following paper:

Remarks on Electro-Therapeutics.

At a late meeting of this Society the subject of electro-therapeutics was incidentally discussed. The general tenor of the discussion was such as to leave an unfavorable impression of its value. I hope a few further remarks on the same subject, with an effort to gain for it a more favorable consideration will not be out of place.

The most serious drawback to this method of treatment has been the exaggerated statement made in regard to it, the vantage ground it has offered to charlatanism, both in and out of the profession. Now, I believe the scientific man must guard himself equally as much against the prejudices, the acts and life of the charlatan excite in his bosom, as against the influences which make the charlatan. And in this case the physician should be as cautious in pronouncing electricity worthless as he would be in proclaiming it an infallible remedy.

We will begin by noticing some of the effects of electricity to which we will later refer when trying to account for therapeutic results.

Mechanical Effects: When the current passes through two vessels filled with fluid and separated by an animal membrane the level of the fluid sinks in the vessel in which the anode (positive pole) is placed, and rises in that containing the cathode (negative pole). This is electrical osmosis.

Chemical Effects: If a piece of animal tissue be exposed to the action of the galvanic current it will be observed that:

1st. The water it contains is decomposed, oxygen being set free at the anode and hydrogen at the cathode.

2d. The salts split into acids at the anode and alkalies at the cathode.

3d. The acids and nascent oxygen oxydize the neighboring tissues, the alkalies exert their peculiar caustic action.' When a sufficiently strong current is applied to the human body similar changes occur at the point of contact of the electrodes. At the positive an eschar is produced with an acid reaction, at the negative a vesicle filled with alkaline fluid.

Physiological action:

1st. When the constant current has been sent through a nerve for a time its irritability is altered. Its excitability is diminished in the neighborhood of the anode, increased in the neighborhood of the cathode. These states are called anelectrotonus and catelectrotonus.

2d. The constant current has a marked refreshing effect upon nerve and muscle. More work can be done when the muscles are under the influence of the current and the sense of fatigue is delayed.

3d. The current has well marked vaso motor effects. They are either direct from the immediate effect of the current, or indirect through application to vasomotor nerves or centres. There is first a contraction of the blood-vessels of short duration, followed by dilation which lasts a considerable time.

4th. Opening and closing the current causes muscular contractions. (Dr. Watteville).

Only some of the above mentioned effects can with any degree of certainty be recognized at the bedside. We will see later how far they will assist us to explain the effects of electro-therapy. But we may at once candidly acknowledge that the practice of electro therapeutics is essentially empirical. Its value is based upon results and not upon theoretical considerations. At the same time it is important that practical and theoretical knowledge should go hand in hand. The one will often aid the other, and it is only in this way that medical electricity will ever attain to the rank of a science.

In what diseases has electrical treatment proven of value? Chiefly neuralgia, paralysis, other conditions accompanied by pain or debility, spasmodic affections, and diseases of the nervous centers.

How can we explain its beneficial influence in these diseases?

First, we must invoke the power electricity exerts in increasing or diminishing the irritability of nerves. It may be that in increasing irritability it exerts its favorable influence in some cases of peripheral paralysis, and in diminishing irritability improves neuralgias and spasmodic conditions.

Next, we must notice the so-called catalytical action of constant current, that is, the combined effects of the mechanical, chemical and vaso-motor influence of the current. These various factors doubtless play a part in the striking results sometimes obtained from galvanism in producing local changes in circulation and promoting absorption and tissue change. It is to this catalytical action that we may attribute the benefit of electricity in local pathological conditions, in cases of neuralgia caused by hyperæmia or coarser changes of the nerve, in cases of spinal or other central disease.

Then we must attribute a large part of the benefit of electricity in both peripheral and central diseases to reflex action. We know that through peripheral irritation we can cause an increased blood pressure in the arterial system, diminish the irritability of distant parts of the nervous system, and produce in distant centers local changes in circulation shown in the phenomena of transfer. It is then to reflex action that we must attribute a large part of the remedial influence of electricity.

It would be interesting to dwell upon the mental effects of electrical applications, the expectant attention, the benefit often obtained through aroused hope, the doubtless injurious effects sometimes resulting through causing the mind to dwell upon morbid conditions. But we must pass by such considerations and speak only of the more tangible and objective results of our measure.

Lastly, we need only mention some immediate effects of electricity, the relief from pain afforded, the refreshing feeling given to fatigued muscles, the muscular contractions produced.

It may be in one or in all the ways above mentioned that results are obtained in an individual case, or it may be in some other manner that is not yet understood. But be that as it may experience has taught us that our therapeutic measure exerts great curative or palliative influence upon many individual cases of the kind already mentioned. Its great value has been demonstrated, not by charlatans nor by enthusiasts, but by the observations of prominent scientific men, untiring in their application, critical in their observations, and calm in their judgment. That enthusiasm has exalted the measure far above its merits, that charlatanism has made it a means for its own flourishing does not detract from its true value. It will often prove an invaluable aid to the physician, and the fact that our power to cure is very limited, should make us the more willing to accept an agent of such extensive application. It will often fail in our hands; but it must be remembered that many cases to which we apply it are chronic ones which have resisted all other measures, and many in their very nature incurable.

Some practical questions arise. When should we use the galvanic and when the faradic current?

(Of frictional electricity, recently brought forward on some hands, I do not intend to speak). Undoubtedly there is a larger field for the former. In some cases of peripheral paralysis that alone would be of value; and in all cases where benefit accrues through catalytical action the faradic current would be valueless. But in very many cases only a trial will determine which is of most service, though we may say in passing that the constant current is usually most reliable in neuralgias, and that Beard and Rockwell claim a special tonic value for general faradization.

Another practical question: In what manner should the constant current be applied? There is still a controversy between electro-therapeutists about the "direction" and the "polar" methods, that is whether the direction of the current, or the influence of the separate poles is the object to be especially considered in treatment. We are not yet sufficiently advanced, either in our knowledge of the influence of electricity on the human body or the pathological conditions concerned, to be able to decide in favor of either the one or the other of these methods.

I will not detain you longer by entering further into either the theoretical or practical considerations of this subject. We have observed two series of facts sharply contrasting with one another. First, the modus operandi of our remedy, the best method of its application in individual cases have still much that is doubtful about them. Second, I have insisted upon the fact that in the treatment of disease electricity is often of real, sometimes of inestimable value. To conclude from these facts what may be our duty as physicians I believe is not difficult. In appropriate cases, especially if other measures have failed, our patients should have the benefit of its trial. But it is not sufficient to say "apply electricity." As a writer on this subject has said: "In order to obtain satisfactory results in electrical treatment a systematic and rational application of the current is absolutely necessary. Nothing can be worse than the desultory meaningless manner in which it is often done."

We should know the method of application already in vogue, the rules on the subject so far as such can already be formulated. Exactness demands the connection of a galvanometer with the constant current, to determine the quantity of electricity applied in each case. Many minor points are of practical value; for instance, when the current is to reach some deep lying part, as the spinal cord, the electrodes must be very large.

Thus, only in being masters of the subject can we be sure that our patients are having the full benefit of the treatment. And finally it is only by methodic applications that our conclusions can have a scientific value, and thus individual experience increase the general knowledge.

In Dr. Taylor's remarks, second column, fourth page of last number, substitute Liddell for Leichell.

This is to certify that I have tried HARTER'S IRON TONIC and find it an efficacious and pleasant tonic remedy.
F. FORCHHEIMER, M.D.

Correspondence.

THE AMERICAN MEDICAL ASSOCIATION.

FORT WAYNE, IND,, June 28, 1882.

Editors Lancet and Clinic:

In the last number of the Lancet, in an article by a correspondent, concerning the "American Medical Association" at the St. Paul meeting, I read the following statement which, to me, seems a very strange one, if true.

"Your clients, Mr. Editor, can name many so-called homeopathic physicians who are apostles of clean speech and clean linen, who are giving all sorts of drugs, in all sorts of doses, who are good anatomists and physiologists, who do not live by slander and theft, and who scorn the idea that they are bouud by any 'system of practice.' I cannot learn that there are any such physicians here under the homoeopathic flag."

He further says that the Minnesota homoeopathists are pirates, and are ignorant, etc.

Now, Mr. Editor, if you have such homoeopathists in Cincinnati as he describes, why don't they haul down their piratical flag, for they are not real homoeopathic artists, and yet, they are willing to be called such, for motives, which to people of ordinary intelligence, seem obvious enough.

Dr. O. W. Holmes, many years ago called the homoeopathists "medical rationalists of the drawing room" in contradistinction to the Electics, whom he called the "medical rationalists of the barnyard," and I had always supposed that they (the little pill men), had always affected clean linen and suave manner, and "oily gammon" speech to thereby commend their infinitesimal pretences and delude their credulous dupes—If you have such practitioners in Cincinnati, I consider them far more detestable than the dirty linen ones, just as hypocrisy is more contemptible than honest dirty ignorance.

For my part, I have the most supreme contempt for these very accommodating, nicely dressed and hypocrital charlatans, who are willing to be called homoeopathists and who sail under that "piratical flag."

And finally, I believe that your correspondent is mistaken if he thinks that any considerable number of respectable physicians have any respect for his "clean linen" variety of doctors, but, on the contrary, consider them more detestatble than their dirty confreres.

Louisville, Ky.
I have used Celerina in the treatment of nervous diseases with the most gratifying results, and in a few cases of opium habit. I am thoroughly satisfied with its remedial effects in this particular affliction. Very Respectfully,
W. T. LEACHMAN, M.D.
Office, 303 W. Walnut Street.

Selections.

Contagiousness of Pulmonary Consumption.—A Clinical lecture delivered in King's College Hospital, by I. Burney Yeo, M. D., F. R. C. P., and published in the *British Medical Journal.*

Gentlemen,—Within the last few weeks you have had an opportunity of seeing, in the Physiological Laboratory of King's College, specimens of certain micro-organisms, prepared by Koch of Berlin, and described by him as the bacillus of tubercle. [1] This organism is believed by him to be the active agent in the origin and spread of tuberculosis diseases. You have also had an opportunity of seeing that this micro-organism can be artifically cultivated and successive generations produced, each retaining, with undiminished virulence the power of producing tubercle when introduced into the bodies of certain animals.

Now, this demonstration, which you have seen with your own eyes, introduces you to problems in pathology and in practical medicine, the importance of which it is impossible to exaggerate. Never, in the whole of the past history of medical discovery, have propositions been advanced of greater import than those which have been advanced and maintained in connection with this discovery.

Let me state to you, in language as clear and simple as I can, what these propositions are.

1. Tubercle is an infective malady, originating in a specific virus, and propagated by the conveyance of that virus from body to body, and originating in no other way.
2. The specific virus of tubercle consists of a particular micro-organism, found only in tubercle; this organism can be seen in the cells of tubercle, can be obtained in a separate form, and cultivated in successive generations, without losing its original properties.
3. Certain forms of disease, termed "scrofulous," are essentially tuberculous; and their characteristic anatomical morbid products contain the infective organism peculiar to tubercle.
4. The disease known as pulmonary consumption is, in the main, a tuberculous disease, and is dependent on the presence and propagation in the body of the infective organism characteristic of tubercle.
5. Pulmonary consumption is a contagious malady.

Of these five propositions, it is claimed for the three first that they rest on demonstration, as I propose to show you; the last two are, more or less, of the nature of inferences from the three preceding; and, in connection with these, we may expect to find there will exist some differences of opinion.

The idea, that consumption is a contagious disease, is not a new one. It is a doctrine which has always been maintained in the south of Europe—in Italy, Spain, and Portugal. Galen believed it, Morgagni, believed it, and great names in the history of medicine, from their time to ours, may be found both for and against it. Pidoux, in France, who had unusual opportunities of becoming acquainted with the histories of a large number of consumptives, declared that his own experience was directly opposed to this doctrine; and that he had never seen a single case of consumption that he could refer to contagion.

One of the most distinguished physicians of our own times, formerly Professor of Medicine in this College, Sir Thomas Watson, in a course of lectures delivered in that very college where you have recently seen demonstrated the existence of a tubercle-bacillus, thus expresses himself on this subject.

"Is phthisis contagious? No; I verily believe not. Neither can the disease be easily (if at all) generated in a sound constitution. Nor is it ever imparted, in my opinion, even by one scrofulous individual to another."

From my own experience of consumption—and, as I shall show you presently, it has been a very large one—I cannot doubt that this was the judgment of sound commmon sense at the time it was uttered, and with such evidence as was then, and has been until quite recently, attainable. But it would be unscientific now to tie oneself to this opinion, in the face of such facts as recent researches in experimental pathology have established.

On the other hand, another very eminent physician, a brother of another former Professor of Medicine in this College, Dr. William Budd, of Bristol, long ago promulgated the view that pulmonary consumption was a disease "strictly analogous to the ordinary eruptive fevers in everything but the slowness of its progress; that among European populations, tuberculous diseases had undergone mitigation of its original severity by long prevalence; but he entertained no doubt of its eminently contagious character."

We must not be surprised that Dr. Budd's views met with little acceptance at the time. Insight, however penetrating, is not demonstration, and scientific belief rests wholly on demonstration. Then (and even now), the evidence, derived from practical experience, against the contagiousness of consumption, in at all the same sense as small-pox and scarlet fever are contagious, seemed overwhelming; and, if we yield now to the teaching that phthisis is a contagious disease, we shall yield solely to demonstration and experiment. For such evidence as we obtain from the experience of physicians in their practice amongst consumptive patients affords, at most, but a weak presumption; and the facts I shall bring before you certainly show that consumption is by no means contagious in the sense which is ordinarily and popularly attached to that word. But the modern methods of experimental research are, doubtless, destined to widen our conception of "contagion," as they widened and corrected our conceptions in respect of many other pathological doctrines; and it is quite possible that, under certain conditions, consumption may be a contagious disease.

During ten years of service in an institution devoted to the treatment of consumption, I saw over 27,000 persons who came to that institution for treatment, and a large proportion of that number were actually suffering from pythisis, Throughout this period, many problems naturally came into my mind as to the nature, the causes, and the treatment of this terrible malady; and, a few years ago, I endeavored to obtain some data, from this extensive field of observation, as to the contagiousness or non-contagiousness of consumption. I follow the following train of reasoning: if consumption be a contagious or infectious malady, in the same sense and at all in the same degree as other maladies which are known to be contagious, the conveyance of the disease from husband to wife and from wife to husband especially among the poorer classes in this country, ought to be a common and not a rare occurrence; for, amongst these classes, the husband and wife almost invariably occupy the same bed, and live a life of close personal intimacy. The rooms they occupy are, more frequently than not, overcrowded, close, and badly ventilated. In short, the external conditions amongst which consumption commonly appears among the working classes are precisely those which would favor the dissemination of a contagious malady. If consumption in this country was, under ordinary conditions, a contagious malady, it would follow, so fatal as its course usually is, that, in dealing with large numbers of consumptive patients taken from the poorer classes, we should often find, amongst the males, the survivors of wives who had died of phthisis; and amongst the females, the widows of men who had succumbed to this malady. That fact must, I think, be clear to everyone. So also we should expect to find husband and wife frequently the victims, together, of this disease. But this is comparatively rare.

For the purpose, then, of throwing some light on this question, I collected, a few years ago, the particulars of 1,055 cases of consumption that had come under my care, consecutively, in the institution to which I have referred. Of this number, 621 were males, and 434 females. Of the 621 males, 306 were married, 297 were single, and only 18 were widowers; about three per cent. of the whole, and about six per cent of those who had been married. Of the 18 widowers, two only could state positively that they had lost their wives by consumption, and one of these wives had been dead thirteen years; six of them had lost near relatives by consumption (father, mother, brother, or sister,) giving a presumption in favor of hereditary predisposition, and in ten no precise information could be obtained. Of the 434 females, 199 were married, 206 were single, and 29 were widows; the widows being about seven per cent. of the whole, and about 15 per cent. of those who had been married. Of the 29 widows, 5 only were able to state positively that their husbands had died of consumption, one lost her husband "in a fit," six had lost near relatives (father, mother, brother, or sister,) by phthisis, pointing to hereditary predisposition, and 17 could give no precise information.

At the same time that I was collecting these particulars from my out-patients, Mr. J. P. Bartlett, at that time acting resident medical officer, was good enough to obtain the following particulars from those who were then in-patients. Of the 94 males in the hospital with phthisis, 53 were married, 37 were single, and four were widowers; of these four, two had lost their wives by consumption. Of the 53 whose wives were alive, all the wives except two were quite healthy. Of the 83 females who were then in the hospital with consumption, 62 were single, 15 married, and six widows; of the six widows, three had lost their husbands by consumption; in two of the three there was marked hereditary predisposition; and in one there was none; in the remaining cases the husbands were healthy.

Taking these figures for what they are worth, it seems certain that the communication of consumption from wife to husband, even among the class in which the conditions of life favor to the utmost the communication of contagious disease, is very rare; while it would seem that communication (assuming, for the sake of argument, the disease really was communicated) from husband to wife is more frequent.

About the same time that I was making these observations, Dr. Hermann Weber brought the subject of the communicability of consumption from husband to wife before the Clinical Society, and in his paper he states that he possesses the history of "68 persons, male and female, who, with a more or less pronounced consumptive taint, have married healthy partners. One of several of the partners of 10 out of these 68 cases became consumptive. "The question, however," he says, "takes a different aspect if the originally tainted husbands and wives are considered separately. Of the 68 persons, 39 were husbands, 29 wives. Only one of the husbands of the 29 wives became diseased, while the wives of nine out of the 36 husbands became affected. These nine husbands lost 18 wives, viz., one lost four wives, one lost three, four others lost two each, and three only one each."

One of Dr. H. Weber's cases is certainly very remarkable. A young man, who had lost his mother, two brothers, and a sister, of phthisis, and who himself had twice had hemorrhage from the lungs, had twice recovered, and married at twenty-seven years of age, being then perfectly well. His first wife was in good health, and came of a healthy family. She died of consumption after her third confinement. The man shortly married again, an "apparently healthy woman," and this second wife, after a year of married life, died of "galloping consumption." He again married a third wife, a healthy young woman of twenty-five, belonging to "an exceptionally healthy family." During her second pregnancy, she developed symptoms of phthisis, which ran a rapid course, and ended fatally in about eight months. Undaunted by his previous experience, this man, who seems to have had a mania for matrimony, married a fourth wife, a perfectly healthy young woman, twenty-three years of age of healthy family antecedents. Three months after her first confinement, she too began to show symptoms of phthisis, and, notwithstanding two sea voyages, died after an illness of nine months, with tubercle in liver, spleen. and intestines, as well as in the lungs. Though the husband of these four wives, who was a sailor, remained in apparently good health, physical examination revealed the existence of morbid changes about the apex of the left lung.

It is possible that the life at sea kept his disease in abeyance; for, when he had to lie by on account of a severe fracture, the disease became active, and he died of consumption within two years.

I have called your attention to this case, because it is perhaps one of the most remarkable on record bearing on the communicability of consumption from husband to wife.

In Dr. Weber's second case, three wives in succession of a consumptive husband died of phthisis, the husband ultimately dying of that disease himself. The disease in the wives appeared during pregnancy, or soon after delivery. The same story is repeated, with but little variation, except as to the number of wives, in Dr. Weber's seven other cases quoted in his paper. Altogether, he had observed thirty-nine diseased husbands, and the wives of nine of them became consumptive after marriage; but, as several of the diseased husbands married repeatedly, it would appear that, out of fifty-one such marriages, eighteen wives became consumptive after marriage. As a set-off against this, out of twenty-nine marriages between consumptive wives and healthy husbands, only one husband became consumptive.

Another noteworthy observation of Dr. Weber's was, that in the infected wives the disease manifested itself in an unusually active florid form, and ran an unusually rapid course; while in the husband it was chronic, stationary, and apyretic. The fact of the onset of the disease following or occuring in connection with impregnation and utero-gestation, as well as the fact of the immensely greater proportion of wives infected by husbands compared with that of husbands infected by wives, naturally provoked the suggestion that the latter became infected through impregnation and from the fœtus *in utero*, just as constitutional syphilis is conveyed from husband to wife. But there is another hypothesis equally tenable, and perhaps more in accordance with modern research; which is, that, during the puerperal state, the female constitution is peculiarly prone to the reception and cultivation of the germs of infective disease; and, assuming for the sake of argument that tubercle is propagated through the agency of an infective organism, the puerperal state may supply one of the conditions (such, for example, as we could conceive an increased body temperature to supply) necessary for its cultivation and spread.

These valuable and striking observations of Dr. Herrmann Weber, while they give weighty support to the belief that consumption is, under certain circumstances, communicable from husband to wife, corroborate also the suggestions I have already made that, if phthisis be a contagious malady, it is so under very peculiar conditions and laws; that it is not contagious in precisely the same sense as is ordinarily and popularly attached to that word.

I have said enough to show you that it would be extremely difficult to prove from clinical observations alone, or from experience, however extensive, of cases of consumption encountered in this country, that phthisis is an infective and contagious malady. Many, who have had the largest opportunities of judging, have formed an opinion altogether opposed to this view, and would regard Dr. H. Weber's experience as quite exceptional. And yet it seems very probable that consumption is in a sense contagious—contagious under certain conditions; and the practical question, at this moment especially urgent, is, "Under what conditions is consumption contagious?" But before attempting to answer this question, it will be necessary to go back to the consideration of the remaining propositions which I formulated at the commencement of my lecture, and see on what kind of evidence they rest, and what is the exact relation of that evidence to the final proposition which forms the special subject of my lectures.

The first of these propositions was, that "tubercle is an infective malady, originating in a specific virus, and propagated by the conveyance of that virus from body to body, and originating in no other way." It has taken many years to obtain for this proposition anything like general acceptance amongst pathologists and physicians, and even now there are not a few who hesitate to accept this doctrine. It is some years ago (1865) since Villemin published the results of a series of methodical experiments, which he had undertaken for the purpose of showing that tubercle was an infective malady. His method was to take a small portion of tuberculous matter, as big as a pin's head, from the body of a man, a dog, cow, or a rabbit, and introduce it under the skin of the ear, the groin, or the axilla, in rabbits and dogs. He found that the wound at first healed over; but, after four or five days, the seat of the inoculation began to be red and swollen, and a tuberculous mass became developed there, causing an ulcerated wound. If these animals were killed after the fifteenth day from the inoculation, tubercles were always found in the viscera; in the lungs, they were usually abundantly; grey granulations, as well as extensive infiltrated masses of tubercle, more advanced according to the length of time that had elapsed since the inoculation and cavities, were sometimes found; while at the seat of inoculation a caseous mass was usually found, surrounded by small yellowish granulations. The corresponding lymphatic glands were enlarged, and often contained scattered nodules of tubercle, some having undergone caseous degeneration. Cats and guinea-pigs were readily inoculated; but sheep, goats and birds escaped infection. He obtained the same results from injecting hypodermically the sputa of phthisical patients in very small quantities, mixed with water. Blood taken during the life of animals with phthisis gave negative results; but, taken after death from phthisical men, it readily produced general tuberculosis in rabbits.

Chauveau of Lyons corroborated Villemin's results, by means of experiments on oxen, animals disposed to tuberculosis. He gave to oxen, by the stomach, tuberculous matter obtained from the human subject, or from other oxen, and they all became tuberculous, the lesions varying from trivial ones to the gravest possible. Typical tubercle-granulations were found in the lungs, as well as caseous masses in all stages. The same results followed inoculation into the connective tissue, and injection into the veins of water holding in suspension tuberculous matter after filtration.

Other experimenters (including Drs. Burdon Sanderson and Wilson Fox, in this country) soon opposed other views to those of Villemin and Chauveau. They stated that, in order to produce tuberculosis in rabbits and guinea-pigs, it was not at all necessary to inoculate these animals with tuberculous matter; that they might be rendered tuberculous by other means. They stated that, in the guinea-pig and some other animals, tuberculosis might be produced by inoculations with pus, or with caseous matter of inflammatory origin, or with sarcoma, just as well as with tubercle; that, in the guinea-pig, tuberculosis had been produced by the application of a simple seton; and that, in the rabbit, deep wounds, without inoculations of any sort, would produce pulmonary tuberculosis. Wilson Fox, in his experiments on guinea-pigs, introduced under the skin various substances—portions of putrefied muscle, fatty liver, and even vaccine virus, with the same result; and it was maintained by others, that such substances as aniline blue, cinnabar, caoutchouc, cotton, etc., caused similar effects; and that carnivorous animals might be fed long on tuberculous lungs without the production of tuberculosis.

Then, it was said by others that the lesions produced by Villemin were not tubercle at all, but simply inflammatory lesions, or embolic infarcts; and some went so far as to say, it was impossible to produce tuberculosis experimentally. At the same time, Chauveau, Klebs, and Bollinger, maintained the correctness of the experiments and views of Villemin.

Two physicians, mentioned in the *Nouveau Dictionaire de Mèdecine et de Chirurgie* (Art. "Phthisis"), went so far as to inoculate themselves with the serum of a blister applied to a phthisical patient, and, we are not surprised to hear, without effect: for, if the peculiar micro-organism which we have recently seen be the active agent in the production of tubercles, we should scarcely expect to find it in the serum extracted from the blood by the action of a blister. Another remarkable case of human inoculation is mentioned in the work I have just cited. Three medical men of Syra (in Greece), in 1874, inoculated a man, fifty-five years of age, with tubercle. He was suffering from gangrene of the left great toe, due to obliteration of the femoral artery, and was in a moribund state. They inoculated some of the sputa of a phthisical patient into the upper part of the right leg. The lungs were previously examined with great care, and found to be perfectly sound. Three weeks later, there were signs of commencing induration at the right apex. On the thirty-eighth day after the inoculation, the patient died of gangrene. At the necropsy, there were found, at the apex of the right lung, seventeen small tubercles, varying in size from that of a mustard-seed to that of a lentil. Two similar tubercles were found at the left apex—two others on the convex surface of the liver. The authors of the experiment considered the embryonic state of the tubercles, and their limited number, to correspond with the short space of time that had elapsed from the inoculation.

It is not likely that an experiment of this kind will be often repeated; but though it stands alone, it is, none the less, an important observation.

Tappeiner and others have shown that animals could be rendered tuberculous, if tuberculous matter (such as the sputa of phthisical patients) were diffused in spray in the air which they breathe.

It has also been stated by Professor Gerlach that, in the variety of tubercular disease which affects oxen, the infection can be introduced by the stomach, if portions of the tubercular organs be mixed with the food, or if the healthy animal be fed with milk from the animal which has tubercle (Simon, *Proceedings of International Congress*). Now, a tubercle is a malady which is very common among cows, this observation is one which may have a vast importance in connection with the feeding of young children.

Cohnheim has also made numerous observations on the infective nature of tubercle. He introduces the tuberculous matter either into the subcutaneous tissue, or into the pleural or peritoneal cavity, or into the anterior chamber of the eye. After introduction in the latter situation, the primary irritation soon passes away, the small piece of tuberculous matter becomes smaller and smaller, and may even wholly disappear; for a time the eye appears quite clear and intact, when sudddenly in the iris a number of delicate grey nodules appear, grow to a certain size, and then caseate. In rabbits and guinea-pigs, fourteen days after the introduction of the virus, disseminated tuberculosis will appear in the various organs; in other animals, twenty-one days is the usual period of incubation. He has succeeded with pieces of lung affected with caseating pneumonia, or with pieces of caseating testicle, or with freshly excised scrofulous gland from the neck; but he has never found any result from introducing caseated sarcoma or myoma, or simple lymphoma.

But some of the most instructive and conclusive observations and experiments on this head are those of Dr. Hippolyte Martin, of Paris. They are related in an article on the "Relations between Tuberculosis and Scrofula," in the *Revue de Médicine* for April of this year; and also in the *Archives de Physiologie* for 1881, on the "Infective Properties of Tubercle." The object of his original experiments was to show that inoculation with true tuberculous matter was alone capable of producing true, general tuberculosis, and that all the lesions produced by the introduction of foreign bodies of non-tuberculous nature were not true tubercle, but what he terms false or "pseudo-tubercle." But he insists that it is of prime importance that all these inoculations should be performed with strict antiseptic precautions; and that if, per chance, the inoculation of non-tuberculous foreign substances have been followed by an eruption of true tubercle, it is because these precautons have been disregarded. He also points out that the anatomical structure of the true and false tubercle, as revealed by microscopical examination, is identical, and that the only means of distinguishing between them is by inoculation *in series*—by a series of successive inoculations. True, infective tubercle is reproduced in an indefinite series, producing always a general tuberculosis as a consequence of local infection; the infectious properties becoming, if anything, more energetic as the series is prolonged. The same method proves the absolute innocuousness of false (pseudo) tubercle.

Some of his experiments are so important, that I make no apology for citing them to you. First, Dr. Martin tested the effects of injecting irritating animal and vegetable powders, such as cantharides, lycopodium, and pepper, into the peritoneal cavity of guinea-pigs. In one instance, he injected sixty centigrammes of lycopodium diffused in water into the peritoneal cavity of a guinea-pig; the animal died four months afterwards of general adhesive peritonitis, but all the viscera were healthy. Into the peritoneum of another guinea-pig he injected a large quantity of powdered cantharides mixed with water; nine months after the injection, the animal was quite well.

His next experiments were with fragments of morbid growths, non-tuberculous. Four pieces, of a cubic centimetre each, were cut from an epithelial tumor freshly removed from the neck of the uterus; two pieces were placed in alcohol, and two pieces in bichromate of ammonia. After a week, the two preserved in alcohol were introduced into the peritoneum of an adult rabbit, and rather more than three months afterwards the animal was killed; both fragments were found encysted in different parts of the peritoneal cavity; all the viscera were healthy. The two other fragments were introduced into the peritoneum of another rabbit, and about a month later the animal was killed, and the fragments were found enveloped in a fold of omentum, their angles rounded, and absorption evidently commenced. All the viscera were healthy.

In another experiment, two pieces of a sarcoma of the testicle, freshly removed, were immediately introduced into the peritoneal cavity of a guinea-pig; about a month later, the animal was killed, and no trace of the foreign bodies was to be found, and all the viscera were perfectly healthy. The same experiment was repeated with portions of mammary carcinoma, on a large and strong female guinea-pig in a state of advanced utero-gestation. She was confined with two healthy little ones a few days after, and, when killed two months afterwards, two free masses were found in a cyst in the abdomen, wholly caseous, and dry like crude tubercle. All the viscera were healthy.

The same kind of results followed the introduction in the same manner of a piece of the femur of a rabbit, with periosteum and some fragments of muscle adherent; half the tibia of a new-born infant that died of erysipelas; three squares of a hard pear; two squares cut out of a ripe apple. In one of these cases, about six weeks after the operation, the two pieces were found surrounded by yellow pus in a large vascular cyst. There was no peritonitis; the viscera were healthy.

The next experiment is very insignificant. In the centre of a large sarcoma removed from the thigh of an infant, there was a large completely caseous nodule; a portion of this caseous matter, weighing fifty centigrammes, was introduced into the peritoneal cavity of a rabbit, with careful antiseptic precautions. A year afterwards, the animal was in perfect health.

These experiments prove conclusively that those observers were certainly in error who asserted that almost any kind of foreign body—animal or vegetable—would produce tuberculosis in guinea-pigs.

In other experiments, Dr. Martin has shown that foreign bodies having irritant properties, non-specific, may set up inflammation, the pathological products of which may have a complete anatomical resemblance to true tubercle, no distinction being possible by microscopical examination; and he has obtained by means of cayenne pepper, lycopodium, and cantharides, the finest specimens of pseudo-tubercle; but these lesions, in spite of their special anatomical structure have no specific virulence. He had repeatedly injected, with antiseptic precautions, the caseated inflammatory products of such experiments, and always failed to produce an eruption of tubercle. He insists strongly on the necessity, especially in a pathological laboratory, of these antiseptic precautions. All the instruments should be washed in alcohol and heated in a flame; and before each operation all parts of the syringe should be taken to pieces and treated in the same way.

On the other hand, pus from a scrofulous gland in the neck, as well as scrofulous products not yet degenerated, not caseous, inoculated immediately after surgical removal, produced a series of cases of general tuberculosis.

Dr. Martin's experiments completely establish the following conclusions: 1. Tubercle, inoculated locally, determines, after incubation, the formation of a local tubercle, and, after a variable time, general tuberculosis; and the virus seems to acquire increased activity by inoculation in series of animals of the same or allied species. 2. But, if we inoculate matter obtained from those tubercles secondary to the injection of non-tubercular foreign bodies, they never give rise to general tuberculosis; and, after two, or, at most, three terms of the series, they even lose the power of producing a local inflammation, and become absolutely inoffensive. Here, then, he remarks, we have two inflammations: one specific, infective, and truly tuberculous; the other non-specific, non-infective, and not true tubercle; but both having the same anatomical structure, and the former differing from the latter by the presence of the property of a morbid agent at the present time unknown. It is this "unknown morbid agent" which Koch believes he has made known to us and shown us—an agent which the microscope had failed to discover until those special methods of preparation were employed which Koch has had the honor of discovering.

So, then, the proof of our first proposition seems complete: that "tubercle is an infective malady, originating in a specific virus, and propagated by the conveyance of that virus from body to body, and originating in no other way." and Koch's experiments appear to have proved the truth of the second proposition: that this "virus" is the property of a micro-organism peculiar to tubercle, and which may be called the tubercle-bacillus.

I need not repeat what has already been published as to Koch's methods of investigation. I may, however, say that the tubercle-baccilli appear as "delicate rods from a quarter to half the diameter of a blood corpuscle in length;" that they have been found "in large numbers in all places where the tubercles are of recent formation and spreading rapidly, more especially at the border of the cheesy masses." They possess a special relation to the giant-cells, being found in their interior sometimes to the number of twenty in each cell. They do not appear to possess any power of movement. In some of the rods, oval spores have been seen. They have been seen in the human subject in cases of miliary tuberculosis, in cases of caseous broncho-pneumonia, in tubercle of the brain, in intestinal tuberculosis, in freshly extirpated scrofulous glands, and in certain cases of synovial degeneration of joints. Nor need I repeat the account (already published in this Journal) of the beautiful series of experiments by which Koch has shown that it is to the presence of this organism, and to this alone, that tubercle owes its infective property. One fact, however, let me remark, *en passant*, for future comment. "It was found that these bacilli required a temperature approaching that of the human body for their growth." The minimum temperature of 86° Fahr., and the maximum of 104° Fahr., are the limits between which they can develop and multiply. This disposes of the first and second propositions, and brings us to the third; viz., "that certain forms of disease termed scrofulous are essentially tuberculous."

Both the experiments of Koch, as well as those of Dr. Hippolyte Martin, go to establish this proposition. I have just said that Koch has found the infective bacillus of tubercle in freshly extirpated scrofulous glands and in certain cases of (scrofulous) degeneration of the synovial membrane of joints. And Dr. Martin has obtained a series of cases of generalized tuberculosis, by successive inoculations in guinea-pigs; original inoculations being in one instance from a small collection of pus found, after death, in a firmly encased submaxillary gland of a child, who had died of measles and broncho-pneumonia without any trace of tubercular disease, but with well-marked clinical characters of scrofula; and in another, from non-degenerated (non-caseous) scrofulous products a few instants after surgical removal.

Dr. Martin suggests, however—and the suggestion seems to me a sound and practical one—that scrofula is, perhaps, not a distinct morbid type, and that some of its manifestations must be included under the class of tuberculous diseases, and that others belong simply to the "lymphatic constitution;" that the possession or non-possession of the property of infection, capable of being transmitted through a series of inoculations, affords the only elements of a certain diagnosis, or, as Koch would probably say, the presence, in their anatomical elements of the tubercle bacillus.

The fourth proposition, that pulmonary consumption is, in the main, a tuberculous disease, will no doubt be stoutly opposed by many in this country, who have adopted those views of the origin of pulmonary consumption in ordinary inflammatory processes which have been so ably advocated by Niemeyer; and much additional experimental research will be necessary in order to set this question at rest.

At present, this proposition rests on the observation that fresh caseous matter, as well as the grey granulations found in the lungs of phthisical patients, are infective, and contain in their anatomical elements the tubercle-bacillus, and that the sputa of phthisical patients are infective; whereas the caseous degenerated products of ordinary inflammation are not infective (in series) and do not contain the characteristic micro-organism.

But it is not denied that chronic inflammatory changes may be produced in the lungs by the entrance of various irritating foreign particles, and that these changes may in time produce fatal injury to the organs of respiration; it is, however, suggested that these cases should not be spoken of as phthisis, but as forms of chronic pneumonia.

In conclusion, we again come to the fifth and last proposition, the proposition with which we started, that pulmonary consumption is a contagious malady. I must again say that it is impossible to over-estimate the importance of establishing the truth or error of this proposition.

It is precisely one of those questions upon which the Collective Investigation Committee of the British Medical Association may be expected to gather up valuable information. And it is one also which can scarcely be cleared up without prolonged and repeated investigations by means of experiments on animals; not painful experiments, happily; there is no need to give pain in carrying out the kind of investigations which this subject demands, and which are calculated to promote the welfare both of man and animals. There are, moreover, many matters of daily concern, connected with this investigation; the way, for instance, in which consumptive patients should be tended and nursed; the propriety of massing together a great number of consumptive patients in the same building; the propriety of allowing healthy persons to breathe air contaminated by the breath of such patients; the mode of dealing with their expectorations; the kind of medical, climatic, or other treatment best suited to the arrest and cure of the disease, regarded as an infective malady; the marriage of consumptive patients. Supposing consumption to be, under certain conditions, a malady, there seems to be, *prima facie*, some ground for believing that one of those conditions may be that of temperature—the temperature of the body, or the temperature of the external air.

I have already mentioned that in the south of Europe consumption has always been looked upon as a contagious disease. May this not be owing to the relatively higher temperature of these regions? And we naturally associate with this reflection Koch's statement that the tubercle-bacillus requires a temperature above 86° Fahr. for its propagation.

I must content myself at present with simply pointing to this question of the influence of temperature upon the origin and propagation of consumption, as one which requires careful investigation. I shall have something to say in a future lecture on the antiseptic treatment of consumption.

Finally, there is the pressing question of the possibility of conveying tuberculous disease to children by feeding them with the milk of consumptive cows; but I have said enough I hope to convince you of the truth of the statement I made at the commencement of this lecture, that it is impossible to exaggerate the importance of the subject to which I have now called your attention.

THE TREATMENT OF CHRONIC RINGWORM OF THE SCALP: A NEW METHOD OF EPILATING THE DISEASED HAIR.—That chronic ringworm of the scalp is a difficult disease to cure, every practitioner will admit. There are two propositions, as regards treatment, which I desire to bring under the notice of the profession. But, first, I must briefly refer to the factor in the problem we are called upon to consider—a fungus growing on and in the hairs, extending deeply into the follicles as far as the roots.

In a paper published in the early part of last year, I pointed out that two things were essential in the treatment of this disease: first, some drug which is capable of destroying the fungus, and so preventing its further development; and, secondly, some vehicle to carry this drug to the part of the follicle where the fungus exists and grows. Arguing, from analogy, that certain chemical substances, called antiseptics, had the power of destroying certain low forms of vegetable life, such as bacilli, micrococci, and bacteri, I suggested that thymol or menthol should be used as the paraciticide, and that chloroform would answer the purpose as the absorbent. But, as the latter was volatile, I added oil to the compound to prevent evaporation. While trying this liniment, of thymol, chloroform, and oil, in a large number of cases, I was struck with the fact that in some of them, in spite of the constant application of the remedy, the disease appeared on other parts of the body, and also on other parts of the head previously free. It seemed difficult to understand that, in a strictly antiseptic medium, spores could be carried from part to part and live; but such seemed to be the case, for in some instances, when the liniment had been used too freely, and had run down the neck, fresh spots of the disease showed themselves in that region. During the time I was considering this difficulty, I found that Koch, in Berlin, had been making experiments on bacillus spores with various antiseptics, and found that those spores lived and developed even after being placed in carbolic acid (one part in twenty) for one hundred and ten days. This, I think, is a very strong argument that neither oil nor fat of any kind should be used when the full action of an antiseptic is required.

Of course I am fully aware that all the best authorities recommend strong ointments, mercurial or otherwise, though for a very different reason from that I have been describing. They care little or nothing about the antiseptic action, so long as inflammation of the follicle, more or less severe, be produced. The spores are said not to live in inflammatory products (Thin). But surely cases are not uncommon in which the disease is transplanted to healthy parts by means of the discharge. I have seen a case in which croton-oil was used to a single patch, and in a short time the head was covered with small centres of infection. In this case the spores were carried in the discharge. And, again, have not all the old chronic cases we see in practice—some of them of four or five years' duration—been cases treated by constant attacks of inflammation, and yet with the result that spores have been found with ease? My view is that to produce inflammation of a slight kind is useless; and that a severe kind is unjustifiable, on account of the risk of destroying the follicles altogether, and producing baldness.

To return to the question of fats: if fat of any kind from without protects the spores, as Koch asserts, the natural fat or sebaceous matter must have a similar effect. For this reason I have tried to remove the fat by means of ether, and have abstained from using ointments or oil in the treatment. I wash, or more strictly dab, the patch each morning with ether, rectified spirits of wine, and thymol, in the following proportions: ether, five drachms; rectified spirits of wine, two drachms and a half; and thymol, half a drachm—applying during the day glycerine with a very small trace of perchloride of mercury. Petroleum may be used in the place of the ether and spirit. One drachm and a half of petroleum-oil takes up five grains of thymol. The ether or petroleum is of greater value than would at first sight appear, and for the following reason. There is a disease of the scalp known as seborrhœa sicca, the chief characteristic of which is the falling out of the hair. This is caused by the absence of the natural fat in the sebaceous matter. It is cured by stimulating the glands to action, and by adding fat artificially. In the ringworm patch, we want the diseased hair to fall out; and by producing a condition similar to seborrhœa sicca—that is, by making the part very dry—we can actually produce this effect. Instead, therefore, of epilating by means of forceps—which is useless, as the hair breaks at the neck of the follicle, leaving the diseased part behind—we can epilate by dissolving the fat, and thus loosening the hair. In this way, we can in a few days remove all the broken and diseased hairs.—Malcolm Morris, F. R. C. S. Ed., in *British Medical Journal*.

THE ATROPHIC KIDNEY.—*Nephritis atrophicans*.—A short time ago Prof. Biermer gave an interesting description of the atrophic kidney, at a meeting of the physicians in Breslau. We take the following from a report of the *Deutsche Medicinal Zeitung*.

Biermer describes the genuine atrophy of the kidneys as a special disease, distinct from *morbus Brightii*. The course of the malady is as follows: There does not exist a special etiology of the genuine atrophic kidney, but frequently exposure to cold, and especially wet feet, are mentioned as cause. The disease runs, from the beginning, an insidious and chronic course. In the first stage we generally find moderate albuminuria, polyuria and slowly progressing deterioration of the general nutrition of the body. Later two more stages may be distinguished: the second stage, during which the changes taking place in the heart and in the pulse become plainly apparent, but where the hypertrophy of the heart compensates for the disturbance in the kidneys; and the third stage, in which this compensation ceases and uræmic symptoms, besides an extra emaciation bordering almost on marasmus, develop themselves. The malady may continue several years ere death sets in. The pressure of albumen in the urine is a *sine qua non* to establish the diagnosis; while generally the urine of the atrophic kidney is excreted in large quantities, of low specific gravity, comparatively poor in urea and other solid constituents, mostly free of sediment, and containing a changeable, though mostly small amount of albumen, and very little epithelium, and new casts. The polyuria is generally not connected with polydipsia. The hypertrophy of the heart is usually confined to the left ventricle and presents the concentric form, without dilatation. The pulse is tense; its frequency varying greatly. Palpitation is a rare symptom. Of great diagnostic value are disturbances of vision and positive signs on the retina. Disturbances of respiration are, perhaps, never absent during the course of this complaint. Brain symptoms might not develop themselves till the uræmic stage is reached, but even then they may be wanting till death takes place, which mostly happens under stupor or coma. Want of appetite and dyspepsia may be present or absent. Vomiting has its origin mostly in uræmia, especially when a frequent symptom. General disturbance of nutrition is never wanting. One might say that blood and fat dwindle away together with the kidney. This is one of the distinguishing marks by which *nephritis atrophicans* is immediately recognized from harmless, functional albuminuria. A person whose urine contains albumen for a long time, and who does not become emaciated, but rather stout and corpulent, does surely not suffer from an atrophic kidney. The presence of dropsy proves that the case is not one of genuine atrophic kidney, but either one of secondary atrophy or that complications exist. An actually effective treatment of the disease is not known. Any diminution in the excretion of the urine has to be guarded against; astringents, therefore, as lead, silver, ergot or tannic acid, are to be avoided. To increase the quantity of the urine, scilla, digitalis, mineral waters and other mild diuretics as well as tonics are indicated. In the uræmic stage only the narcotics seem to be of any value.—*The Medical and Surgical Reporter.*

TREATMENT OF TONSILLITIS AND HYPERTROPHY OF THE TONSILS BY BICARBONATE OF SODA.—Dr. Armangué (*Révue de Thérapeutique*) reports seven cases of tonsillitis cured in less than twenty-four hours by the bicarbonate of soda. This method of treatment was introduced by Dr. Giné, professor of clinical surgery, who employed bicarbonate of soda locally either by insufflation, or directly applied by the finger of the patient. The applications should be frequently repeated until the disease disappears. Dr. Giné relates dozens of cases in which a cure was accomplished in twenty-four hours, and has never seen this method fail to produce a good effect. The alleviation is almost always immediate, and is never long delayed. Its efficacy is especially marked in the prodromic period of tonsillitis, when it will invariably abort the disease. According to Dr. Giné, bicarbonate of soda does not diminish the predisposition to anginas, but only arrests their developments. Excision of the tonsils is a useless operation in cases of hypertrophy of the tonsils, since the hypertrophy can be rapidly removed by frequent applications of the salt of soda.—(*L'Union Méd. du Canada*).—*Practitioner.*

ASPHYXIA NEONATORUM.—Dr. Grenet (*Journ. de Médecine*) in a paper read before the Paris Society of Practical Medicine recommends strongly the use of hot water in bringing to life infants who do not begin to breathe after birth. The method (Goyard's) is easily practiced, and does not hinder the use of other means of setting up respiration. The child is plunged at once into a vessel of water as hot as it can be borne by the hand (120° F.), and the arms are raised and lowered alternately to simulate the natural movements. In a minute or two the asphyxiated infant begins to grow rosy and to gasp, and presently cries out. Such at least is Dr. Grenet's experience.—*The Practitioner.*

BRIGHT'S DISEASE.—At the Société Medicale des Hopitaux M. Dieulafoy called the attention of his colleagues to some little known symptoms observable in Bright's disease. The first he would mention was the excessive frequency of micturition. Patients have been known to get up ten or fifteen times in the night, but this frequency is necessarily associated with an increase in the secretion of urine, just as there is often polyuria without the frequent desire to pass water. They are two independent symptoms. This distinction has been well recognized by authors, but hitherto both were described under the term polyuria. This was why M. Dieulafoy proposed to leave the name polyuria to the troubles of the secretion, and to give to the troubles of the excretion the name *pollakiuria*. He distinguishes three varieties of pollakiuria, that which appears at the commencement of the malady, that which only shows itself when the affection is far advanced, and that which is extremely painful. Another symptom observed in the *début* of Bright's disease consists in an itching resembling the burning sensation produced by the sting of ants over the whole body. He has observed it in a third of the cases. A third symptom very little known in this disease was what he called the sensation of the dead finger. The patients commenced to feel cramps and creeping sensations in the fingers, never in the toes. Sometimes there is only one finger affected, sometimes none, and other times the corresponding fingers of both hands. The extremity of these fingers become pale and bloodless, these phenomena appear and disappear. The *début* of Bright's disease is thus surrounded with a good deal of obscurity. Bright based his diagnosis on the presence of albumen in the urine and œdema of the face, and afterwards in the lower extremities. To-day it was impossible to confine oneself only to the presence or absence of these two symptoms to form a diagnosis, for œdema is not observed in every case, and in some patients there is very little albumen, and often but intermittent. Thus it behoves us to make a correct diagnosis at the beginning, and often the disease will only manifest itself at that stage by one of the symptoms to which M. Dieulafoy called particular attention. It should not be forgotten, however, that besides those symptoms, pollakiuria, itching, numbness in the fingers, many headaches, noises in the ears, flying pains, etc., are often nothing else than the prodromes of the malady.—*The Medical Press.*

MATERIALS OF BLOOD-POISONING: Abstract of an address delivered at a meeting of the Lancashire and Cheshire branch at Blackpool, by Rushton Parker, B. S., F. R. C. S., and published in the *British Medical Journal.*

I have to show you micrococci from acute abscess, gonorrhœa, and pyæmia, and bacilli from a wound in a case of septicæmia. They are prepared by Koch's method of aniline-staining, and rendered distinct under microscopes bearing high powers, illuminated, in two instances, by Abbé's condenser; and are additionally represented in the diagrams which hang before you.

The germ-theory of disease is so far a reality, that spirillum is the demonstrated organic cause of relapsing fever; while the local and constitutional changes in septicæmia, pyæmia, and acute suppuration, are equally proved to be due to the presence, propagation, and influence of bacilli and micrococci of various sizes and differing degrees of irritative or toxic virulence.

In reviewing the germ-theory of infective disease in general, and of traumatic infection in particular, it may be convenient to allude to two distinctive types severally represented by septicæmia and pyæmia. Many of the infective diseases have been proved, most of them are provisionally supposed, to be due to organisms imported in some way from without. The organisms present in decomposing animal fluids are both numerous and various, yet they are, fortunately, "pathogenic" only in an extremely small minority. Some of them are always present in decomposing, and under certain conditions in suppurating wounds; while, even in health, the cutaneous and mucous surfaces may be peopled with organisms of several distinct kinds. Under the type represented by septicæmia may be classed anthrax (and possibly also measles, typhus, and their associates), where the blood is simply polluted with an organism or with its products. Septicæmia proper seems to be of two kinds: (1) septic intoxication or toxæmia due to sepsin evolved by the septic bacteria (themselves confined to a putried part of the patient or victim); and (2) septic infection or toxæmia, in which the septic bacteria themselves enter the blood. In the septicæmia of mice, bacilli are the form of organisms concerned, and found in the blood, or in the infected wound or in both. But they are often not to be found in casual specimens of the blood, owing to their more numerous accumulation in the capillary vessels rather than in the main blood-stream.

In pyæmia, as investigated in rabbits, the organisms concerned are micrococci. There have been changes of opinion as to the appropriateness of the word pyæmia, as a descriptive term, especially in the old sense implying a suppuration of the blood, seeing that the introduction of pus into the blood had chiefly a negative value in the attempted experimental production of pyæmia. But, since Mr. Lister showed, in his observation of the breaking down of the infected blood-clot in a donkey's vein, that a genuine suppuration of the blood can indeed take place, the rational value of this necessary traditional expression is once more established. Pyæmia is characterized by a clotting of the blood, and the distributed infection of an organic ferment. The micrococci crowd together, increase the adhesiveness of the corpuscles, and promote the clotting of the blood, even in capillary vessels. The thrombi, whether large or small, are foci for the further development of the micrococci; and hence all the secondary phenomena, which, like the primary, may be suppurative or not.

In septicæmia, the bacilli kill by poisoning the blood, without giving rise to secondary inflammations or primary local manifestation; whereas in pyæmia, the micrococci cause clotting of the blood, and set up embolic pneumonia, nephritic infarcts, and perhaps also suppuration of the joints. The micrococci do not seem to be in themselves always so extremely poisonous; but, by giving rise to suppurative or other organic changes, indirectly lead to death by perversion of visceral functions.

What is the immediate cause of death in perforation of the bowel? The general answer is, "Collapse," which is indeed true enough when collapse actually takes place. But how are we to explain the case where neither collapse nor death occurs? Perforation or rupture of intestine, with diffusion of contents throughout the peritoneum, is followed by peritoneal absorption, and the collapse is septicæmia; but a similar occurrence into the tissues, and not into the peritoneum (or only gradually and slowly into that serous sac), is a sure cause of acute (because putrid) abscess, but is often followed by recovery. A similar explanation attends the fatality of intestinal gangrene—as a complication, for instance, of strangulated hernia. It is a modern canon of surgical pathology that, in gangrene of any superficial part, putrefaction will occur unless circumstances specially prevent it. Dry gangrene may spontaneously fail to putrefy, except at the moist line of demarcation; but moist gangrene will infallibly putrefy, unless the timely disinfection of the superficial surface be artificially undertaken. But, if this be successfully done, the disease may be arrested, its spread prevented and its disappearance accomplished, without loss of substance.

In the case of the intestine, no such prevention can be practiced, so putrefaction inevitably attends the establishment of gangrene, demanding the prompt and free excision of this (as of any equally advanced) gangrenous organ.

A case of hernia, three days strangulated, recently came under my care at the Liverpool Royal Infirmary. At the necessary herniotomy, I removed twelve inches of bowel, with some omentum, and the patient for a time did perfectly well, in fact nearly recovered, but eventually died collapsed. After the post mortem examination, it was found that fresh patches of gangrene had appeared in other parts of the intestine, and thus the temporary relief and the ultimate death were both explained. Cases have been already reported in which this operation has been perfectly successful.

Although bacilli are the characteristic organic poison in the septicæmia of mice, and micrococci in the pyæmia of rabbits, it is to be noted that Koch found rabbits liable to a true septicæmia produced by micrococci differing in shape, size, and distribution from those producing pyæmia in the same animal.

Tubercle is an infective disease, now known to be due to an organism which gives rise to the characteristic manifestations. They are both anatomically and physiologically allied to pyæmia. Opinions have, in the past, been apparently divergent as to the supposed real nature of tubercle; for instance, one school of able observers held that it was a purely inflammatory process, while another equally able, and its allies, have always regarded it as a specific disease due to an infective virus. No doubt the histological phenomena of tubercle are consistently explained as inflammatory, and so are those of pyæmia. But what causes the inflammatory changes? The very specific virus once thought to be an explanation antagonistic to the former, but now woven inseparably into it in the form of the tubercular bacillus so admirably discovered by Dr. Robert Koch.

Syphilis again presents many features analogous to those of pyæmia, and some have even alleged that they have seen a syphilitic germ. But though this is not yet sufficiently proved, it is probable that such a germ exists. As for gonorrhœal rheumatism, its clinical features have long been interpreted as those of an aseptic pyæmia, which, fortunately for the patients, lacks the anatomical proofs that might be afforded if it terminated fatally; while ulcerative embolic endocarditis is a true aseptic pyæmia on the best anatomical evidence.

There is another infective disease which I venture to compare with pyæmia, and that is malignant disease, more especially its so-called carcinomatous varieties. Like tubercle, the inflammatory character of which is admitted on all hands, so far as the histological changes are concerned, the cutaneous, mucous, and glandular cancers have very close affinities to inflammation. The primary growths are essentially a plastic catarrh; and the round-celled infiltration, by which they are additionally indurated, shares, with the similar indurations of undisputed inflammation, a histological identity. Simple inflammations, however, are resolvable, their infiltrated products disappearing on the subsidence of the irritant cause, be it chemical or mechanical; where the cancerous induration is unresolvable, be it a malignant stomatitis, glossitis, enteritis, or dermatitis, as in epitheliomas, or be it a malignant adentis, as in mammary or other glandular cancers. Round-celled sarcoma, again, is a true infiltration of the plainest possible kind, whether it constitute a malignant cellulitis, periostitis, or ostitis, or even an interstitial orchitis or any adenitis; and differs only from undisputed inflammation of regions and organs in its "unresolvability." But the very unresolvability of carcinomatous tumors, whether primary indurations, lymphatic infections, or disseminated visceral growths, has a distinct parallel in the similar unresolvability of pyæmic, tubercular, and neglected syphilitic phenomena.

The cachexia of acute cancer, and of acute sarcoma, when now and then it kills as a poison, without prominent local symptoms, is not unlike that of pyæmia, of tuberculosis, and even of syphilis; the lymphatic glandular infection, and all its attendant and consequent phenomena, is conspiculously similar to various forms of infective inflammation; while the malignant thrombi that form in veins, in cases of carcinoma and sarcoma alike, with the still more frequent embolic disseminations of these truly infective appearances, have a resemblance to the thrombosis and embolism of pyæmia too obvious to need defense.

More than six years ago, I was led to the assumption that malignant disease had inflammation for its anatomical type, by the histological examination and comparison of inflammation, tubercle, and cancer; and I have taught it, during the greater part of that period, as an idea justified on anatomical grounds, though not entitled to acceptance as a truth. As a mere hypothesis, I venture to suggest it here, with the intimation that many things will surprise me more than the discovery of a parasitic germ originating malignant growths.

The bacillus of tubercle, though discovered, separately cultivated, and successfully inoculated by Koch, is most difficult to find, and then chiefly in the freshest growths. The microphytes of disease, how terrible soever be their vigor, or the initial reality of their presence, are sometimes exhausted, and even effaced, in the transformations of tissue which they themselves educe—exhausted, as noticed in tubercle by Koch; effaced, as observed by Lister in the ass's jugular. The parallel, once established, recurs even in prevention, in treatment, and in cure. Against pyæmia, the only certain safeguard lies in preventing the primary infection; in tubercle, we already extirpate the earliest manifestations when we can get at them; while, in cancer, timely excision does sometimes amount to effectual eradication. The purpose is, in all to avoid the dreaded physiological "infection".

GALL STONES IN AN INFANT.—Dr. A. Dunbar Walker contributes the following interesting case to the *British Medical Journal*. He saw a male child, three months old, who had been brought up entirely at the breast, and had always been healthy, excepting a slight attack of jaundice, a few days after birth. In the evening it commenced to cry, and continued to do so almost uninterruptedly for six hours, when a sedative mixture afforded a little restless sleep. The next morning a dose of castor oil was given, which soon caused an evacuation. The passage was healthy in appearance, but upon close inspection, three small ovoid bodies, dark green in color, and as hard as wax, were found. The larger one weighed two grains, the other two were much smaller. These substances seemed to consist of cholesterine; minute particles of the coloring matter of the bile could be detected here and there. This occurrence might account for the crying in many cases, and it would suggest the advisability of looking for these gall stones in the case of fretful children.—*The Medical and Surgical Reporter.*

Pathology and Treatment of Exophthalmic Goitre.—M. Gueneau de Mussy (*Société de Thérap., Journ. de Méd.*) describes four cases of this disease, two of them occurring in men. The first was a young woman of decided literary tastes, who a short time after her marriage began to suffer from palpitations associated with mental agitation and extreme anxiety. Her face soon became pale and haggard, her eyes prominent, and five or six months later M. de Mussy detected the appearance of goitre. Patient's movements were abrupt and choreiform, sometimes rendering her walking unsteady and difficult. Heart's impulse was powerful; accompanied by a musical murmur at the base and a soft bruit over the pulmonary artery. Pulse, 128. Examination of the throat and neck revealed a long-standing granular pharyngitis and indubitable signs of enlargement of the tracheo-bronchial glands. An intercurrent attack of pericarditis yielded to active treatment but left a highly marked and harsh cardiac murmur. The patient grew weaker and her mind and disposition altered strangely. The death of her mother gave rise to serious nervous troubles; menstruation became irregular; tympanites and attacks as of suffocation became constant, cough was incessant, depending on emphysematous bronchitis, and death ensued at the end of two years' illness. The treatment carried out by MM. de Mussy, Potain, and Charcot, was at first hydrotherapeutic; afterwards digitalis was given but was badly borne. Ice was applied to the epigastrium and tincture of iodine to the goitre. None of these measures affected the course of the disease. In the three other cases the same general features were noted. The characteristic symptoms are referred in each case by M. de Mussy to the enlargement of the peribronchial glands, especially on the right side, which results in compression and irritation of the pneumo-gastric. He thinks that the cerebral symptoms may perhaps be due to a kind of ascending neuritis reaching ultimately the medulla and the encephalon. In one case a decided pigmentation of the skin was noted. This symptom has been already recorded in like cases, but is of course much commoner in suprarenal affections; it may, however, be determined here also by the vagus irritation making itself felt upon the abdominal plexuses. This particular patient was cured by the use of "Eau de la Bourboule" alternately with tincture of iodine internally.—*The Practitioner.*

Treatmemt of Diphtheria.—Dr. Deuker who, during twenty-four years of very extensive practice in the Children's Hospital, St. Petersburg, has treated upwards of two thousands cases of diphtheria, and tried all the remedies, both internal and external, employed in this affection, has obtained the best results from the following method, which he has employed for the last ten years. As soon as the white spots appear on the tonsils he gives a laxative mainly composed of senna, which produces an abundant evacuation. When the purgative effect has ceased he gives cold drinks acidulated with hydrochloric acid, and every two hours a gargle composed of lime water and hot milk in equal parts. Dr. Deuker affirms that when this treatment is commenced early it is generally and rapidly successful.—*The Medical Press.*

Sulphide of Calcium as an Antisuppurative.—Dr. Andrew H. Smith, Chairman of the Committee on Restoratives of the Therapeutical Society of New York, furnishes to the *New York Medical Journal and Obstetrical Review* a report of the committee on the use of sulphide of calcium for the purpose of preventing or diminishing suppuration. After giving the experience of several members of the Society, Dr. Smith concludes his report as follows:

Judging from this limited number of cases, it would seem that we are warranted in concluding that in many cases of suppurative affections, ranging from the small pustules of acne to extensive suppurating surfaces, an appreciable, and often a very marked, benefit is derived from the use of the calcium sulphide, suppuration which would otherwise take place being averted, or the quantity and duration of an existing discharge being lessened. At the same time its action is not uniform; and in many apparently favorable cases it will fail entirely. The drug is somewhat prone to irritate the stomach, and this circumstance affords an indication for small doses frequently repeated instead of larger ones at longer intervals. One tenth of a grain every two hours in acute cases will generally secure the full therapeutical action of the drug, but larger doses may sometimes be required, and some patients will bear well a grain three or four times a day. Even in small doses the sulphide will occasionally produce headache, and the patient is usually more or less annoyed by eructation of sulphuretted hydrogen.

Treatment of Fissure of the Anus Complicating Chronic Metritis.—Fissure at the anus is frequently observed in women affected with parenchymatous or endometritis. The most frequent cause for this affection is the chronic congested condition which exists about the anal region as well as in the uterus and its appendages, In connection with this, there is almost constantly obstinate constipation. Surgical treatment in such cases is not always of benefit, particularly when the fissure has not induced contracture of the sphincters.

Two forms are observed in practice: In the first the fissure is of old date, and its borders are hard and callous.

In such a case, M. Chéron, in a recent number of the *Rev. med. chir. des maladies des femmes*, recommends that massage over the part, with the pulp of the index finger, should be made every day; then he places in the fissure a small metallic cylinder, connected with the negative pole from two elements of the pile, the positive pole having an electrode as large as possible.

Five minutes application is sufficient to produce a modifying chemical action without causing any pain.

A calming unguent is applied each evening to the fissure:

℞	Ext. digitalis,	ʒ ss	
	Ext. belladonnæ,	gr. xvss	
	Adipis,	℥ j.	M.

A dozen applications generally suffice for cure.

In the second form there are no indurated borders, but the parts are painful and sensive when touched. In such a case iodoform is recommended:

℞.	Iodoform,	gr. xvss	
	Balsam Peru,	℥ j	
	Adipis,	ʒ j.	M.

If there is spasm of the sphincter muscle, gradual dilatation may be established by the introduction of a bivalve speculum, once every four or five days.—*Medical and Surgical Reporter.*

SUBCARBONATE OF IRON IN INDOLENT ULCERS.—Dr. Vidal, (*Le Praticien*), has for some months been experimenting with this substance in the St. Louis Hospital, Paris. It is prepared by precipitating a solution of ferro. sulphate (free from copper) by means of carbonate of sodium. The precipitate is washed and dried in the open air, and so loses carbonic acid while it absorbs oxygen. The result is a brown rouge-like powder. It has been applied to all kinds of ulcers and always with excellent effect. The surface is first washed with a mild astringent lotion, the powder is then spread over it in a fairly thick layer, and a bread-poultice is placed over all. The dressing is done twice a day. In the worst cases complete cicatrization has been obtained in thirty to forty days, in ordinary cases in ten. It is found that the local temperature rises considerably after the dressing, and that electric currents capable of demonstration with the galvanometer are set up around it. The dormant vitality of the granulations is rapidly awakened. and cicatrizing islands may sometimes be seen in the middle of the already contracting ulcer.—*The Practitioner.*

TYPHOID FEVER IN YOUNG CHILDREN.—Amongst the various forms of typhoid fever which occur in children, it is scarcely necessary to insist upon the importance of diagnosing that transient variety which so frequently escapes observation. The premonitory symptoms are so vague, and the headache, restlessness at night, constipation and fever are so ill defined and so slight, that it is no easy matter to discover them. When the affection is once declared, however, it remains for some time, the chief symptom being that the child does not sleep, whilst the tongue is somewhat red, and the abdomen is slightly swollen. The spots are often difficult to see on account of the local applications which have been employed; but at a later stage the fever becomes well defined with morning remissions until the fifteenth day, when the patient becomes convalescent. This form of the disease appears to be almost peculiar to children, and is a more benignant variety than the similar one which attacks adults.—*Le Praticien.*

GELSEMIUM AS AN ANTIPRURITIC—Dr. Bulkley has directed attention to a very important point which is often a source of great anxiety to to the practitioner, viz., the difficulty in relieving persistent and wearing itching in skin affections. He points out that the drugs we certainly rely on, viz., opium, morphia, chloral, bromide of potassium, aconite, and carbolic acid, when administered internally, often fail to stop the unconscious scratching, and he was led from the known effects of gelsemium to try that drug. In certain cases he found it decidedly afficacious. He begins with ten drops of the tincture, and, if in half an hour there is no relief, he gives twelve or fifteen drops, and so on, until one or two drachms have been reached in two hours.—*Buffalo Medical and Surgical Journal.*

PRECURSORY SIGN OF PULMONARY PHTHISIS.—Dr. Coiffier (*Lyon Médical*) thinks that the coexistence of clean tongue with a pulse of 85 in young people is an almost certain indication of the approaching development of pulmonary phthisis. In patients of between eighteen and thirty years who appear to have excellent health, he considers that some tubercle has already been deposited.—*Practitioner.*

HYDRATE OF CHLORAL AND TINCT. IODINE.—According to the authority of Pavesi, the therapeutic powers of tincture of iodine are increased by the addition of chloral hydrate, which dissolves in it without decomposition, and is readily miscible with water without precipitation. This combination possesses remarkable hemostatic virtues, from its marked coagulating powers over albumen.—*Pacific Medical Journal.*

CALOMEL AND MICRO-ORGANISMS. — N. P. Wassilieff, after noting the high estimation in which calomel has been always held in disordered conditions of the bowels, especially in children, points out the absence of any experiments to show or explain the cause of its influence, with one or two exceptions. Voit, indeed, as long ago as 1837, observed that albumen and blood, mingled with calomel, were capable of being kept for days without any indication of putrefaction, and Hoppe-Seyler made some similar observations; but besides these, few, if any, researches have been made on its action. In M. Wassilieff's experiments, calomel was added to the fluid obtained by acting on albumen by pancreatic juice; and he satisfied himself that the albumen-digesting ferment of both these fluids was not injured by calomel—peptones in the one instance, and leucin and tyrosin in the other, appearing as usual—but that the presence of this substance prevented the formation of the secondary products, such as indol and phenol. Neither hydrogen nor hydrogen sulphide formed in the fluids containing calomel, whilst they were abundantly produced in the others. In like manner, the author experimented on the effect of calomel on the fat-digesting and the amylolytic ferments of the pancreas, and found that it had no modifying influence upon them, but that it arrested the changes which followed their completion, entirely preventing, for example, the butyric acid fermentation and putrefactive processes. He hence arrives at the conclusion that calomel acts different on the formed or organized and the unformed or unorganized ferments, permitting the action of the former to proceed unchecked, but completely preventing the action of the latter.—*Lancet.*

SURGERY.

Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Diseases.—Mr. President and Gentlemen :—I fear I do not much mistake in the belief that the subjects which I have ventured to take for my present course of lectures are by no means high in professional favor. Our forefathers, who knew far less about the details of pathology than we do, attached far more importance to such matters as temperament and diathesis. They were accustomed to prescribe for a man's temperament; we think only of his disease, and turn aside with a sense of weariness from the precise but arbitrary classification in which the physicians of an older day delighted. Although to a large extent this change of sentiment has been the result of advance in knowledge, yet I think it might easily be shown that it has gone too far, and that we now neglect unwisely the study of those differences between man and man of which, for the most, physiology takes no cognisance, but which may yet prove of much importance in modifying the processes of disease. It is to this study that I now invite your attention. I have been attracted to it in part by its own intrinsic interest and in part by the circumstances that it has seemed to be in some sense supplementary to the lectures which on former occasions I have had the honor to deliver from this chair. In my first course I investigated the present state of knowledge as to the influence of the nervous system in the production of disease. In the second we examined those remarkable and widely-spread forms of diathesis known respectively as gout, rheumatism, and leprosy. When on these subjects I tried to show that rheumatism is a modification of the catarrhal diathesis, mainly nervous in its origin, in which the stress of the reflex disturbance falls upon the tissues of the joints. I traced a close similarity between gout and leprosy, alleging that both are food diatheses distinctly and definitely caused by certain peculiar articles of diet. Respecting both we had to remark upon the facts, that having been thus acquired by food, they became capable of transmission from parent to child, and that gout, at any rate, was prone to receive important modification in such inheritance. In my third course, delivered last summer, I was led by a not unnatural sequence to take as my topic the laws of pathological inheritance in general, and to deal with them in relation to such maladies as syphilis, gout, leprosy, catarrh, and certain specialized defects, such as deaf-mutism, color-blindness, and hæmophilia. In each of these courses I have been obliged very frequently to use the term "diathesis," and to justify its use against what I have all along recognized as a widespread and to some extent well grounded distrust of the vagueness of the knowledge, or, shall I say, of the mere ignorance which its employment not unfrequently denotes. It has occurred to me that I could not take for my last course a subject more suitable than the one which I have announced. It will enable me to recapitulate with amplification some of the subjects to which on former occasions I adverted to too briefly, to approach them from a different point of view, and, I trust, to place some of them in a clearer light. In doing this it will be my duty to avoid repetition, but, if I should now and then seem to any of my audience who have honored me on former occasions to be attempting to enforce that concerning which I may be thought previously to have said enough, I must beg their indulgence. I must also offer some preliminary apology for the incompleteness and fragmentary character of my lectures. It will be impossible to pass even in the most cursory manner over the whole of the ground indicated, and I shall therefore prefer to dwell with some considerable detail upon certain portions of my subject with which I am personally familiar, and which also appear to have special value as illustrating general laws.

It is needful, in beginning, to define our terms, and in doing this I shall keep as closely as possible to custom's usage. We may, perhaps, define the term temperament as usage to the sum of the physical peculiarities of an individual, exclusive of all definite tendencies to disease. Different temperaments are to be assumed to be likely to give some degree of peculiarity to morbid processes when such have been induced by other causes; but they do not in themselves involve any special proclivity. When a most strongly marked temperament is still consistent with the prolonged enjoyment of perfect health. If there be distinct proclivity, we must then use a stronger, and speak of diathesis; and I would define a diathesis to be any bodily condition, however induced, in virtue of which the individual is, through a long period, or usually through the whole life, prone to suffer from some peculiar type of disease. Some diatheses are inherited, others are acquired. Of some the effects are permanent or constant; of others, they are transitory, or recurrent after intervals of health. The term should, however, never be applied to any condition of health which is expected to pass and leave no trace, for the idea of persistency, in some sense, is always implied. On the other hand, we do not confuse diathesis with dyscrasia, for whilst the latter definitely implies bad health, the former only denotes proclivity, and may be used when its subject seems perfectly well. Thus, to distinguish between temperament and diathesis, we may say that the former is a matter of physiology and the latter of disease. That the former term is applicable only to peculiarities which are a part of the original organization of the individual, whilst the latter may be acquired as well as inherited. Thus inherited diathesis is more often than not entirely latent at the time of birth, and it is susceptible of aggravation, and, in some cases, of cure, in after life. Such alterations are not possible in the constitutional peculiarities which we name as temperament.

Concerning the idiosyncrasy, I will not say more in the way of definition than that it is applicable to any definite peculiarity of organization in which the consequences may occur unexpectedly and otherwise inexplicably. It does not, like diathesis, imply any special proneness to disease only that under certain well-known circumstances results which are peculiar to the individual will certainly occur. Although, as I shall have occasion to observe, it is quite possible that the idiosyncrasies may in many instances have sprung from the diathesis, yet they have become in long hereditary transmission questions rather of organization than of disease, but their existence may be revealed for the first time at any period of life, and nothing is more common than that an idiosyncrasy should pass into absolute abeyance to wait until, after it may be a very prolonged period, its approximate exciting cause may again make it conspicuous. Just as observers of mankind have from time to time strained their faculties in the endeavor to find in the external lineaments of a man some clue to his mental power and moral habits, so have physicians sought to find in parallel indications the means of predicting his tendencies in reference to disease. As yet I fear we must say that the labors of the physiogomist and those of the student of temperament have been alike disappointing. Whoever will set himself the task of attempting to classify a given number of individuals according to their temperaments will, I think, soon find himself baffled. He will discover that he is mistaking for criteria of temperament conditions which are simply indicative of youth or age, of health or disease, or the effects of past anxiety, or trouble, or of comparative immunity from them. Just as the physiognomist ought carefully to exclude from his estimate of the original and inborn character of a man those traits of expression which have come to him through the wear and tear of life, and keep closely to the original features, so should the student of temperament scrupulously reject all that has been superadded, and which is in a sense accidental. Temperament, as I have endeavored to define it, concerns the original hereditary organization of the individual, and does not include anything which is the result of the influence to which his life has exposed him. That which has accrued to him during life goes to produce or aggravate diathesis, but can do nothing in modification of temperament. Dr. Laycock has well spoken of the temperaments as being "fundamental modes of vital activity peculiar to individuals." To somesuch conception as this we must keep if we would use the word with any precision. Yet a very slight familiarity with the subject will easily show us how difficult it is so to restrict its use, and especially in this case when dealing with the adult and senile periods of life. The very names of the temperaments in many instances denote the record of the results of long-existing disease rather than of individual peculiarities as regards vital activity. Indeed, it may be questioned whether in a large majority of cases there do really exist in persons as yet in perfect health any peculiarities by which we can predicate or discriminate the "fundamental mode of vital activity." Disease, when it occurs, will reveal it to us, and upon this point I shall have much to say in subsequent lectures. But I fear that so long as perfect health exists the data are exceedingly few and untrustworthy. When, for instance, we recognize a melancholic temperament, do we not naturally take note of some thing which is the result of disease which has been experienced in the past rather than a peculiarity possessed by the individual whilst in health? The features which go to make up the sanguine temperament, are they not in part, and in large part, often those indicative of sound health in the digestive functions and blood-making organs? and such as might possibly be destroyed by a few years' illness? If we seek for something more fundamental, shall we not be obliged to confess that we have but little to guide us in a classification excepting the conditions which go to make up what we mean by complexion? In complexion we include the color of the hair and eyes, the state of the skin as regards thickness, thinness, or transparency, and the various degrees of freedom of distribution of blood in the capillaries of the face. It is easy to apply with tolerable accuracy such words as blonde, fair, dark, brunette, sallow, pale, florid, clear, muddy, and the like, and these and many others are epithets applicable to the complexion. Temperament, however, although to a large extent confessedly indicated by complexion, is generally held to include something more. If it did not I fear we should find it but a sorry basis upon which to build a knowledge of the vital peculiarities of the individual. Yet again, I ask, what have we to which we can make appeal? We may examine a man's features, note the size of his bones, the shape of his jaws, the brilliancy of his eyes, the coarseness or fineness of his hair, his stature, his muscularity, his abundance or otherwise of cellular tissue and fat; but in observing all these things we shall be reminded that some of them are simply peculiarities of family or race, and have little or nothing to do with health, whilst others are conditions which may vary much at different periods during the same life. Above all, if I mistake not, we shall find it quite impossible to combine with well-known and indelible types of complexion any correlative peculiarities as regards the points which I have just enumerated. We shall find fair persons who have coarse skin, and others of the same tint of hair and eye who have transparent skins. We shall find dark people who are florid, and others who are pale, and we shall have to note that the tendency to fatten varies very much at different periods of life, and that it often depends quite as much upon diet as upon temperament. I come then back to my point, and assert that whoever will set himself to classify by temperment a dozen healthy individuals whom he may chance to meet on a steamboat, in a law court, or at a dinner party, will find that he has scarcely any data excepting those of complexion. He will find, moreover, unless I am much mistaken, that if he attempt to go beyond mere complexion, there are not more than two or three in the dozen whom he can with any degree of confidence assign to special temperaments. As to complexion itself, the further he goes the more he will have to confess that, putting various conditions of sanguification aside as being in many persons dependent upon varying states of health, he can after all classify the complexions themselves only in referring to pigmentation. The varying degrees of dark, fair, or red, constitute almost the sole individual peculiarities of the complexion which are not altered by disease, diet, or age. We come then to the question—Are congenital peculiarities as regards pigmentation in any degree trustworthy as indicative of vital peculiarities in the individual possessing them? We will ask the question first as regards individual races, and next as regards different individuals of the same race. That pigmentation as we now see it in the various races of man is an inherited quality, and so definitely transmissible that it constitutes one of the bases of race distinction, may easily be admitted, whilst at the same time we must also grant that it is in itself a result of climate. Those who live in the tropics become dark without question as the result of the direct influence of the sun; whilst those who live in more temperate climates lose their pigment, or retain it only in certain special structures, as the hair, the irides, and the choroid. If apparent exceptions to this general law occur, they are to be met with probably as the consequences of human interference in modifying the conditions. Thus, the habit of wearing clothes prevents the development of any approach to blackness of skin in white races who may have lived through many generations in the tropics. The blackest skins always belong to those who have joined the two conditions of nakedness and a tropical sun. Thus, then, to begin at the beginning, may we not believe that varying states of pigmentation of the integument denote rather exposure to climate influences than peculiarities of development? Nor is there, as far as I know, much reason for believing that variations in this respect imply any material difference in health tendencies. Such peculiarities as we recognize in different races—the immunity of the negro from yellow fever, his liability to elephantiasis, and to tetanus—may easily have nothing whatever to do with his pigmentation *per se*, and be matters simply of race. This view, I think, derives considerable support from the facts which I shall mention directly as regards the peculiarities of dark or fair complexion in members of the same race and amongst the lower animals.—Jonathan Hutchinson, F.R.C.S., in *Medical Press and Circular*.

The Danger of Iodoform Dressings.—The search for an antiseptic body which shall be a powerful germicide, and yet not injurious when absorbed by the human organism, still continues. Not long ago, Mikulicz, and many other surgeons in Germany, enthusiastically extolled the merits of iodoform; and it has been widely used both in that country and, though to a less degree, in this. For a time, all seemed to promise well with the new drug, but gradually we began to learn its demerits; and recent experience seems to show that its use, under certain conditions, as yet not fully explained, may give rise to most serious, perhaps even to fatal results. Iodoform was introduced into England some years ago, as a local application which was of great use in the treatment of spreading ulceration, and especially of the local contagious ulcer. Gradually its use extended; it gained much favor with gynecologisis, especially for the purpose of correcting the fœtor of ulcerating cancer of the womb; it was blown into the nose and into the ear, and, made up into a bougie, introduced into the male urethra. About two years ago, Mikulicz recommended it as a dressing after operations, major and minor, on the ground that it was a powerful antiseptic, and yet did not irritate the parts. Its employment was said to be especially advantageous in the treatment of scrofulous joints; and those who adopted this line of treatment did not hesitate to open freely a knee-joint affected with tumor albus, and introduce iodoform in large quantities into the cavity of the joint; in such a case, an outside dressing of cotton-wool, treated with iodoform, was applied, and left undisturbed for a month or more. No great care seems to have been taken to estimate the quantity of the drug used in such a dressing; it was ladled out of a bottle into the joint, and no ill effects appeared to follow. Now, Dr. Ringer pointed out last summer that iodoform was a heart-poison; he found that one-fifth of a grain would almost arrest the frog's heart. Such an experiment as this prepared us for the clinical observations detailed by Dr. Max Schede of Hamburg, who, in an important paper, published recently in the *Centralblatt für Chirurgie*, drew attention to the toxic action of the drug. He found that, in certain cases, its use is followed by an enormous increase in the frequency of the pulse, which runs up to 180, even in the adult, without any marked rise of temperature, or any general symptoms beyond some disquietude, *malaise*, and loss of appetite; in other cases, in addition to the rapid and feeble pulse, there are some fever and headache; in both of these classes of cases, the withdrawal of the drug is immediately followed by a disappearance of the symptoms. In other cases, where the rapidity of the pulse is very great, and the temperature very high 104° Fahr., or more), the danger to the patient, in spite of the absence of marked general symptoms, is also greater—inasmuch as the withdrawal of the drug is not always followed by an immediate cessation of the symptoms. By far the most serious form that iodoform poisoning takes, however, is that in which the sensorium is deeply involved; in children the symptoms closely resemble those of meningitis, and have been frequently rapidly fatal, in spite of the immediate withdrawal of the drug. The child, who may have been in excellent health for some weeks under the use of iodoform dressings, suddenly becomes very ill, the pulse grows rapid, with irregular or perhaps very slight pyrexia, vomiting is severe, consciousness is disturbed or lost, and there are localised paralyses. It has been urged that probably, in Schede's cases, these symptoms did in reality depend upon a rapid meningitis—perhaps of a tubercular nature, for the patients have generally been strumous children; but this we do not believe to be a complete explanation, because, among other reasons, we are acquainted with a case of this kind which recently occurred in a London hospital, where symptoms pointing, as it was thought, most unmistakably to meningitis, entirely disappeared when the affected joint was freed from iodoform. In Mr. Stanley Boyd's report o. four cases, in the wards of University College Hospital, drowsiness and stupor were observed in two patients, symptoms of meningitis in one, and delirium in a fourth, which ended fatally. Both Schede and Küster say that the drug can cause sudden collapse and death; but of this there does not appear to be sufficient proof.

Iodoform is an iodine-compound, chemically analogous to chloroform; its composition is represented by the formula $C\,H\,I_3$; it contains therefore 96.7 per cent. of iodine. From this fact, it has been argued by some, wise after the event, that its use in large quantities must be injurious; but, what do we know of the toxic properties of iodine itself? Very little, in fact. Iodine has been injected into the cavity of the pleura without ill effect, and, combined with potassium, enormous doses can be tolerated. Rather does the above account of the symptoms it can produce tend to approximate it somewhat to chloroform in its therapeutics; and he would be a bold man who would maintain that the symptoms of chloroform poisoning were due to the chlorine in its composition. A writer in the May number of the *London Medical Record*, to whom we are much indebted, adopts the view of Dr. Mundy, of Vienna, who contends that the toxic or fatal symptoms have been due to the reckless manner in which large quantities of the drug have been used. No doubt, this is perfectly true; but it does not seem to explain all the phenomena. In the first place, it is comparatively rare to get any symptoms of poisoning at all. There are surgeons in this country, who have used the drug in large quantities at a time, and have never met with a single case of poisoning; and, in a great proportion of the cases reported, the symptoms did not appear until after the continuous use of the drug for two or three weeks. We are loth to fall back on Dr. Max Schede's theory of a peculiar idiosyncrasy; and, before doing so, we would certainly desire more complete observations, especially with regard to the urine. The supposed cumulative action of other drugs—of digitalis, for instance—has been distinctly traced to renal disturbances. So long as the kidneys discharge their functions vigorously, so long is the poisonous substance rapidly eliminated from the blood, and gives rise to no symptoms; but if, from some cause, the urinary excretion is checked, then the poisonous body accumulates in the blood, and gives rise to its characteristic symptoms. For this reason, we think that a careful examination of the urine, where iodoform is being used, may not only throw light on the way in which it produces toxic symptoms, but may also furnish a timely warning of their approach.

Lastly, we are informed that Prof. Kocher, of Berne, has been struck by the resemblance between the symptoms of iodoform and of chloroform poisoning, and that he has encountered one case where the onset of the symptoms was marked by signs of acute nephritis.—*British Med. Journal.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, July 8th, 1882.

Miscellany.

THE GUITEAU AUTOPSY.—The Medical News, of Philadelphia, furnishes the Western Associated Press with an advance copy of this week's issue, which contains the official report of the post-mortem examination on the body of Charles J. Guiteau. The report is signed by D. S. Lamb, and dated at the Army Medical Museum, Washington, July 4. It is as follows:

By reason of a delay for which neither I nor my assistants were responsible, the examination was not begun until 2:30 p. m., (one hour and a half after death), in consequence of which the photographing was less sucessful and a cast was impracticable. The body, which was of a faint yellowish tint, was that of a man about five feet seven inches in height and weighed 145 pounds. The eyes were examined by Dr. Loring, who reported the pupils slightly and equally dilated, The vitreous was cloudy, and the fundus indistinguishable. The conjunctiva of the left eye was congested. He repeated the examination two hours later, and noticed an appearance as of a transevere fracture of the lenses. A small white scar, directed obliquely downward, forward, and to the left, and confined to the scalp, was observed midway between the top of the left ear and median line of the head. Skull—the right parietal bone was slightly flattened over a space of about two inches square, just back of the fronto-parietal suture, and to the right of the interparietal. There was a slight flattened elevation on the corresponding internal surface of the calvaria. The frontal suture was obliterated, the others being quite distinct. A number of pacchionian depressions were observed near the groove for the longitudinal sinus. In thickness the skull presented nothing remarkable. Membranes of the brain—The dura mater was firmly adherent to the anterior portion of the calvaria in the vicinity of the longitudinal sinus. There were adhesions of the dura also to the base of the skull. They were quite firm, and situated in the several fossæ, and were most marked in the deeper parts of the fossæ, where also there were small patches, abruptly limited, of immovable arborescent congestion, with, however, no attendant thickening or pigmentation. This stagnation was again most marked in the left anterior and middle fossæ. There was no congestion of the dura except at the points just noted. The dura and pia mater were adherent to each other, and to the brain on both sides along a limited portion of the longitudinal fissure in the vicinity of the pacchionian granulations. The dura mater was slightly thickened along the longitudinal sinus. It was also slightly thickened and opaque along a portion of the line of the middle meningeal artery on each side. The arachnoid of the upper convexity of the brain presented, in many places where it covered the sulci, small patches of thickening and opacity, elsewhere it was normal. The pia mater was anæmic anteriorly: posteriorly there was slight hypostasis. The cerebral-vessels appeared to be normal in all respects. The orbital plates were well arched and presented many conical eminences of large size. There wos no roughening anywhere of the inner surface of the skull. The brain was firm. Its weight, including the cerebrum, cerebellum, pons and medulla, and a portion of the dura, was forty-nine and one-half ounces. It was slightly flattened in a region corresponding to the flattening of the parietal bone above mentioned. On the section of the cerebrum there was appearance as of slight thinning of the gray cortex. The measurements taken, however, gave depths of one-sixteenth to one-eighth inch in close proximity to each other. The white substance was almost absolutely anæmic. The cerrebellum and island of Reil were both covered on each side.

The Fissures.—The fissures generally presented considerable depth in many places, as in the right fissure of Rolando. amounting to seven-eights of an inch. The right fissure of Sylvius was typical; the left was separated from the first temporal fissure by a slight bridge deeply situated. The right fissure of Rolando did not connect with the fissure of Sylvius; the left was separated only by a small bridge deeply situated. Both were separated from the longitudinal fissure. The first frontal fissure on the right side was not connected with that of Rolando, but at the posterior part was crossed by a secondary fissure; the same on the left side, except that the fissure was crossed by a small bridge near its center. The second and third frontal fissures presented nothing remarkable. There were numerous secondary fissures. The præcentral and retrocentral fissures, on each side were well defined, and were unconnected with the other fissures. The interparietal fissure, on each side, terminated in the transverse occipital, were separated only by a slight bridge. The parieto-occipital was well marked on each side. The transverse occipital fisssure on the right side was ill defined. It began on the median surface and extended well outward. The first temporal fissure was well developed on the right side; on the left was not of the usual length. Wernickes fissure was well marked on the left side, but not confluent. The Calloso marginal fissure was double on each side, the upper one of the two being probably the true one. On the right the upper one extended back to the anterior margin of the paracentral lobule; on the left, not quite so far, the lower one extended on the right side to the line about half an inch in front of the parieto-occipital fissure, from which it was separated by a small bridge; on the left side, also, by a bridge of larges size.

Orbital surface.—On the right side were seven fissures, radiating from a circular fissure surmounting a small isolated convolution; on the left side were five fissures radiating from a small shallow depression. The left collateral fissure was well defined, extending to the anterior extremity of the temporal lobe. The right was also well marked, but did not extend so far back as the other, and there was no attempt at confluence anteriorly with the temporo-occipital, a small bridge intervening. The left temporo-occipital fissure was well defined. The convolutions—The following alone call for remark: The ascending frontal was well defined on each side. The ascending parietal on the right side was well developed in its lower three-fourths, but narrowed in the upper fourth: on the left side the narrowing was less marked. The island of Reil presented on the right side five fissures and six straight gyri; on the left side, seven fissures and eight straight gyri. The paracentral lobule was well marked on the right side, small on the left.

Thorax and abdomen.—The usual median incision was made and the abdomen opened. There was an extravasation of blood into the right pectoralis major muscle, near the second rib. The adipose layer of the abdominal section was one inch in thickness. The dome of the diaphragm extended up to the fourth rib on each side. There were old pleuritic adhesions at the apex of the right lung. The upper and middle lobes were congenitally united by connective tissue. The lung was normal throughout. There were also old pleuritic adhesions of the left lung to the diaphragm, and between its lobes. Three small tubercle like pigmented patches were observed in the upper lobe. The heart weighed ten and three-quarter ounces. Its muscular substance was apparently normal. There was an abundance of fat upon its anterior surface, and a villous patch of old pericarditis near the apex of the left ventricle. The right ventricle contained a little blood just forming a clot. The valves were normal. The aorta was slightly atheromatous for a short distance above the valves. All of the abdominal viscera presented large accumulations of fat. They were normally situated. The liver was congested. The gall bladder contained a little bile. The spleen was lobulated and enlarged. It weighed eighteen ounces. The capsule was a bluish substance brown, the malpighian bodies hypertrophied; the pancreas was normal; the stomach contained food; the intestines appeared normal, but were not opened; the the kidneys were congested; there was a small superficial serous cyst on the right one.

Notes.—First, a considerable quantity of dark blood ran out of the heart in the separation of the heart and lungs.

Second—Dr. Young states the man was subject to malarial attacks while in jail.

Third—He had eaten dinner about an hour and a half before the execution.

Ehrlich's Method of Staining Tubercle-Bacilli.—This method is a great improvement over Koch's original method, in that the bacilli are more brilliantly stained and easily found; and it also takes a much shorter time, the whole process requiring from half an hour to an hour. Ehrlich has employed it chiefly in the examination of sputa; and it has now been adopted by Dr. Koch, in preference to his own method. The sputum is spread in a thin layer on a cover glass, and dried. In order to fix the albumen, the cover glasses are kept at a temperature of 100° to 110° Cent. (212° to 230° Fahr.) for an hour; for practice, it is sufficient to pass them three or four times through a gas flame. The staining solution is prepared as follows: About five cubic centimetres of pure aniline are added to 100 cubic centimetres of distilled water, well shaken, and then filtered through a moistened filter. To this mixture, a saturated alcoholic solution of fuchsine, methyl-violet, or gentian-violet, is added till precipitation commences. The cover-glass is allowed to float on this, with the lids on which the sputum has been spread directed downwards, for a quarter to half an hour. It is then washed for a few seconds in a strong solution of nitric acid (one part of commercial nitric acid to two parts of distilled water), and afterwards in distilled water. In this way, the stain is extracted from everything but the tubercle-bacilli. The ground substance may be stained brown, if the bacilli have been stained violet; or blue, if they have been stained red, by way of contrast to the bacilli. It is interesting to hear that, in Berlin, the examination of sputum by these bacilli is now generally employed, as a means of diagnosing tuberculous affections of the lung from others: for the bacilli are constantly present in the sputa in cases of tubercle.—*Brit. Med. Jour.*

Rendering Cotton Goods Uninflammable.—Dr. Kedzie, of the State Board of Health of Michigan, in a recent address, made the very excellent suggestion that cotton fabrics—with special reference to articles of clothing—could be prevented from taking fire by the simple expedient of adding a little borax to the starch with which the goods in question are dressed. The quantity recommended is a teaspoonfull of borax to each pint of starch after the latter is dissolved in water. The speaker showed by experiment that muslin, and even the most gauzy and imflammable textures, when treated with the borax starch, could not be made to take fire and burn with a blaze.—*Drug Circular.*

Resection of Lungs.—At the session of the Verein für innere Medizin, held on June 5th, Herr Block, of Danzig, communicated the result of a number of experiments on resection of lung that he had made on both sound and tuberculous animals, rabbits, dogs, sheep, swine, and cows. The animals were all completely recovered in health in a few days, and the resected lung again filled the thoracic cavity. Herr Block throws out the not unnatural suggestion that possibly the operation could be carried out on the human species in cases of pulmonary tuberculosis, gangrene of lung, copious hæmoptysis, and tumors of the lungs.—*Medical Press and Circular.*

A Fluid Artificial Drum.—D. I. Michael (*Berl. Klin. Wochenschrift*) observed that in cases of perforation of the ear, that the hearing was slightly improved after some fluid had been injected into the ear. He made this idea practical by injecting sufficient glycerine into the ear and sealing up the same with collodion. This fluid artificial drum lasts generally about eight days, when it is renewed.—*San Francisco West. Lancet.*

Surgeon General Barnes has been honorably placed on the retired Army list by reason of long service. Assistant Surgeon General Crane has been promoted to the vacancy. General Crane merited the promotion and was fortunately in the line. The action of the President will receive the endorsement of the whole medical profession.

Bibliography.

Diseases of the Ear in Children.[1]

By Anton von Trœltsch, M.D., Professor in the University of Würzburg. Translated by J. Orne Green, A.M., M.D., Aural Surgeon, Boston City Hospital; Clinical Instructor in Otology in Harvard University. From Gerhardt's Handbuch der Kinderkrankheiten. New York: William Wood & Co., 1882.

This is a book by the well known author on diseases of the ear—a standard work long familiar to the general profession in its English dress.

The author has now made a separate book on the diseases of the ear in children, an admirable one, and put into correspondingly good English by Dr. Green.

The work contains 165 pages, and is gotten up in a first class manner by William Wood & Co.

It would be superfluous to indulge in any encomiums on the labors of a man so thoroughly conversant with the subject of otology as Von Trœltsch.

It is a book that ought and will meet with an extensive sale. W.W.S.

Original Communications.

THE CURABILITY OF EPITHELIAL CANCER AND KINDRED ULCERS.

By Wm. A. Collins, M.A., M.D., Madison, Ind.

In attempting to write anything upon this subject I do so quite fully realizing the difficulty and embarassment surrounding it. I am aware of the immense work that has been done and the numberless and radically diverse views concerning the pathology, classification and treatment of such; and concerning all these—except treatment—I shall attempt nothing; but, on the other hand, simply confine myself to a statement of the clinical facts concerning these ulcers just as they have been observed in my own practice, feeling that the results I here record are of sufficient value to invite unprejudiced investigation.

I am also aware that many admitting the results will be too ready to place the treatment and consequent recovery in the relation of coincidence merely and in no way bearing the relation of cause and effect.

The diversity of classification, nomenclature and pathologic relations of these lesions as held by the better part of our profession is my reason for calling all my cases carcinomatous.

Gross (Vol. I., pp. 260) defines rodent ulcer, lupus, cancroid and other similar affections to be carcinomatous—essentially, and he defines that class of lesions to be "malignant and having the effect of destroying not only the tissues in which they are located, but also the life of the patient," and he should have added, that by any means at present generally known, incurable, he would have improved the description.

I will give simply the physical symptoms, history, treatment and result of each of my cases. Every one of the cases here described were treated extensively by one or more good practitioners, and some of acknowledged ability, and the diagnosis as it came to me from my predecessors was in every case "cancer."

I was led into this particular treatment by the condition of Case No. 1, which would not permit the use of the knife in any way and no form of caustic, and the certainty with which death would follow if the ulceration was not arrested.

I will not attempt to give the therapeutic reasoning by which I was induced to use the ergot in the first case, but will say in brief that I found that all writers on this subject held that these ulcers progressed by reason of their excessive cell growth or hypernutrition and knowing almost if not every remedy had failed of the cure I could think of nothing—as an effort—more suited to the indications, that of diminishing vitality, vascularity, and capillary circulation, and at the same time as free from objection, than ergot.

I tried it in the first case and the manifest result was astounding to the patient, other physicians who had treated him and myself, and was as incredibly unexpected as acceptable. To the incredulous I will say that the exact correctness of this report is attested by every medical man who saw the cases.

Case I. W. W., æt. 67. Applied to me in April, 1876, for the treatment of an ulcer of the left side of the neck and face, involving the parotid gland and ear; which ulcer was about four by five inches in diameter, extending from the meatus of the ear downward and forward along the sterno cleido mastoid muscle, the centre being below the angle of the lower jaw, and was of an irregular circular shape and surrounded by an elevated, indurated and nodulated margin or roll about one inch in diameter, thus making the extreme extent of the ulcer about six inches. The general depth being about one inch below surface of margin, yet in the center it was deeper, at which point the pulsation of the carotid artery was plainly visible. The floor was covered with indurated, nodulated bodies and the discharge was of a sanious nature, the elevated margin and the floor being quite hard. The cervical, postcervical and submaxillary lymphatic ganglia were much involved, being indurated and tender. He was emaciated, weak, had poor appetite, and colliquative sweats, and the color of his face, which in health had been very florid, was very pale and the exact appearance of the cancerous cachexia in advanced cases. The ulcer commenced in a hardened elevated tumor of the skin just below the point of the ear, growing slowly, not painful at first; when, about two years previous, it had attained the size of a walnut, the ulceration of the surface of the tumor began and pain also set in. The ulceration of the ulcer steadily progressed until it attained the size described, and latterly had frequent profuse hemorrhages, until at the time I saw him death seemed imminent from exhaustion if not from ulceration of the carotid vessels. The situation and depth of the ulcer precluding the use of the knife or cautery, and all of the physicians whom he had consulted having told him that his death would shortly occur, at his urgent request I undertook to try something and my investigation led me to try ergot for the reasons stated.

The *fresh* ergot was *freshly* ground to an *impalpable* powder and applied three times daily to the entire face of the ulcer with a large soft hair-pencil, the ulcer being washed thoroughly once every day. The powder was used dry, allowing all to adhere that would. After each application the ulcer was covered with a light muslin rag wet with a lotion of

℞.	Carbolic acid,	ʒi
	Sulphurous acid,	℥iv
	Glycerine,	℥i
	Aqua,	℥ii ss.

M. Sig. Lotion.

He was also put upon quinine, iron, codliver oil and the other usual adjuncts to a restorative treatment. In a short time the discharge assumed the appearance of laudable pus, the induration of the lymphatic ganglia disappeared, the elevated, stony and nodulated periphery subsided, the floor assumed a healthy aspect and in twelve weeks the ulcer had entirely healed and has remained so up to the present time. His general health rapidly improved and up to this time has been continuously good. This gentleman had an uncle to die of a similar ulcer and an aunt of cancer of the breast. All of the physicians who treated this case previous to myself were and are confirmed that it was epithelial cancer.

Case II. Mrs. E. K., æt. 40, married, no children. This case was sent me from an adjoining county in March, 1877, by her family physician, with the statement that she was suffering from cancer of the left breast of about three years since it began. I found the body of the gland entirely destroyed and its site occupied by an excavated ulcer about five inches in diameter and an average depth of about one inch. Margin elevated, indurated and nodulated. The ulceration was in active progression, her general system much depressed, loss of appetite, colliquative sweat, etc. The lymphatic ganglia of the left axilla were enlarged, tender and indurated, in fact were so coalescent with the margin of the ulcer that I could discern no line of separation. The supra clavicular glands of the left side were extensive, indurated and enlarged. This case began as the preceding—by a small scaly movable tumor of the skin near the nipple. Her family history showed no cases of cancer. The treatment of this case was precisely the same as Case No. 1, yet the recovery was not so rapid and it was not until August following that the ulcer was covered by a cicatrix, and not until December that all induration and tenderness had disappeared, and up to this date it has shown no sign of recurrence. Her general health has also remained good.

Case III. Andrew B., aged 70. Applied to me in October, 1877, with an ulcer of the outer angle of the left orbit, about two inches in diameter, with an elevated, indurated and nodulated margin. The ulcer being sunken, the floor covered with tuberculated elevations, the discharge slight and sanious, and the ulcer painful. It was of about twenty month's standing and commenced with a scaly tubercle of the skin, which ulcerated about a year before I saw it. This case had been treated by two excellent physicians before I saw it, both of whom pronounced it epithelial carcinoma. This case was treated by the application of the dry powdered ergot three times daily, washing it once daily and at all times keeping it free from any crust or scab. This ulcer healed nicely in two months and has shown no sign of return.

Case IV. Thomas H., æt. 55. Applied to me in March, 1879, with what his physician had told him was cancer of the lip of one year standing. I found him suffering from a fungoid ulcer of the mucous margin of right side of lower lip, very painful and bleeding frequently. I removed the fungous mass by scissors and applied the ergot as in the preceding cases, which soon produced an *excavated* ulcer about three-fourths of an inch in diameter, and under the continued use of the ergot the ulcer filled up by granulations leaving but a slight scar. The glands under the jaw on right side were much involved when I first saw him. In two months he was entirely well and has had no return. This patient had an older brother to die from an ulcer of the lip exactly similar to his own as far as it proceeded.

Case V. M.D.B., æt. 75. Came under my treatment in 1875 with an ulcer of the nose of ten year's standing, which was superficial and actively progressing. He had been treated by a number of physicians, but with little benefit. In 1877 I commenced applying the ergot and succeeded in arresting the ulcer in the locality ulcerated, yet it would ulcerate in new places until 1881 when he died.

Case VI. J.G.C., æt. 45. Applied to me in March, 1880, with an excavated ulcer, one inch in diameter, of the right upper eyelid, of eighteen months' standing, which had been treated by three reputable physicians, all of whom pronounced it cancer. His mother died of scirrhus of the breast. The application of ergot was used and in six weeks the ulcer was healed and there has been no return.

Case VII. John S., æt. 65. Applied July, 1880, with carcinomatous ulcer of right side of cheek, near the nose, of two year's duration. This case was very similar to Case VII. The ulcer being somewhat larger. The ergot was used and perfect healing resulted in two months and no return to date.

Case VIII. George D., æt. 48. Applied Jan., 1882. Ulcer of left side of the nose, one inch in diameter, twenty month's duration. Healing resulted in five weeks under same treatment.

Case IX. Joseph H. L., æt. 70. Applied March, 1882. Ulcer of tip of the nose, of three years' duration, one and one-half inches in diameter. Treatment as before and recovery in four weeks and no return.

Case X. John S. W., æt. 60. Applied September, 1880. Ulcer of left cheek, two inches in diameter, excavated with raised edges, of two years' duration, and very painful. Treatment as before, recovery in six weeks and no return.

I have tried the ergot in two other cases of carcinoma, but both were of the deep-seated scirrhus form, one of the fauces, the other of the mammary gland, but the effect, if any, was not perceptible.

In this article I have given the facts just as they occurred and leave it to others to judge of them, at any rate I have great confidence in the ergot and shall at present continue its use in similar cases, not caring or asking whether they be rodent ulcer, lupus or carcinoma.

LACERATION OF THE FEMALE PERINEUM.

By H. V. Sweringen, M.D., Fort Wayne, Ind.

Read before the Indiana State Medical Society, May 11th, 1882

My object in presenting for your consideration a few cases of lacerated perinei, is to hear, as an interested spectator, the subject discussed with especial reference to the much disputed point, the proper time for operative procedure. This being my purpose, it will not be necessary to enter into its etiology and prophylaxis. I am disposed to favor the deferred operation. The fact as to whether or not the immediate operation may not be considered one of the fashions of the healing art, can never be determined until nature has been given a fair opportunity to manifest her power in effecting spontaneous cures of ruptured perinei.

Puerperal fever is no longer regarded as a disease essentially differing from pyæmia or septicæmia; hence by resorting to the immediate operation, we add an exciting, surgical cause of the disease, to a powerful predisposing puerperal etiology. The puerperal state should, therefore, be allowed to pass away before the operation is performed.

I commenced the preparation of this report a week ago to-day, subject to the interruptions common to the physician. A mere glance at the literature of the question was taken, and, therefore, Thomas and Goodell were but hastily consulted. But I am here to relate my own experience, and not that of the excellent authorities referred to, however difficult it may be to divest myself of that gregarious spirit which is disposed to follow in the track pointed out by a few leaders.

Case I.—In the spring of 1876, Mrs. H., a healthy, robust lady, residing on Nirdlinger Avenue, Fort Wayne, Indiana, aet. 35 years, primipara, was delivered by forceps, of a healthy child, which delivery resulted in a complete rupture of the perineum, which was immediately sutured by three silver wires, after which, union speedily took place by the first intention.

Case II.—On the last day of October, 1880, Mrs. D., residing at No. 71 West Wayne Street, Fort Wayne, Indiana, a rather delicate lady, aet. about 30 years, primipara, was delivered by forceps, of a bright, healthy child, which delivery resulted in a partial laceration of the perineum; two black silk sutures were at once introduced and carbolized injections employed twice daily; union was not effected; septicæmia developed, and death occurred on the twelfth day of November.

Case III.—On the 5th day of October, 1880, Mrs. E., a healthy, well developed lady, aged about 25 years, residing at No. 11 North Cass Street, Fort Wayne, Indiana, primipara, was delivered by forceps, of a healthy babe, resulting in the laceration of the perineum, to a point about midway between the fourchette and the sphincter; no sutures were employed, carbolized vaginal injections were resorted to, night and morning, and the patient directed to assume a lateral posture, without, however, fastening the knees together; union took place rapidly, without suppuration.

Case IV.—On the 17th day of February, of the present year, 1882, Mrs. D., a healthy, vigorous lady, aged about 26 years, primipara, residing at No. 14 Wilt Street, Fort Wayne, Indiana, was delivered, instrumentally, of a healthy child, with the result of a complete laceration of the perineum; the rupture in this case was so extensive that for several days it was impossible for her to retain her fæces. No sutures were introduced, carbolized vaginal injections were employed night and morning, and the lateral decubitus rigidly enforced, without tying the knees together; union by the first intention was speedy and perfect.

Thomas, in his great work on the Diseases of Women, on page 129, makes the following remark: "Even when the rupture has been complete, it has been asserted that spontaneous cure has taken place, but such reports need confirmation. Peú once affirmed that he had seen a woman thus injured, and who passed her fæces involuntarily, entirely recover. De la Motte declares that thirty years afterward he met and examined Peú's patient, in Normandy, and found that no recovery had occurred."

I would therefore, gladly invite the "doubting Thomas" to see this case and say unto him Thomas, reach hither thy hand; make a digital examination; thrust if thou canst, thy fingers into an ununited rupture; be not faithless, but believing. I feel it a duty I owe, however not only to Professor Thomas, but to the profession at large, to give in full the address of this patient, which is as follows: Mrs. J. M. Dickson, No. 14 Wilt Street, Fort Wayne, Indiana; the address of the nurse who attended her, is Mrs. John H. Waterman, 157 Van Buren Street, Fort Wayne, Indiana.

Case V.—On the 27th day of last month, April, 1882, Mrs. M., a lady in ill health, residing on Walnut Street, Fort Wayne, Indiana, was delivered by forceps, of her second child. As a result of this delivery, the perineum was ruptured down to the sphincter; its examination revealed, also, an old, ununited, partial laceration, which occurred during her first accouchement, nearly two years prior, while residing in another town, and while under the care of another physician. She was now directed to lie constantly, on either side, with her knees tied together, and carbolized washes were ordered to be employed night and morning; no sutures were introduced. Up to the date of the present writing, May 6th, 1882,— on which date her babe died in a spasm—nature has entirely failed to effect a union of the severed parts. She is now taking iron, quinine, cod-liver oil, etc. No history was obtained from her, save a general complaint, extending over a period of several years, of an indescribable illness. Her appearance is anæmic, leucocythæmic or that of general debility, with all that that rather indefinite term implies, and she presents a diathesis not wholly unlike that denominated strumous. I believe that in this case, when her general health has sufficiently improved, union of the ruptured parts will take place by merely freshening their surfaces and enforcing the lateral decubitus, without resorting to sutures; the latter would have been, in my opinion, unsuccessful in this case, had they been employed in an immediate operation.

I have now recorded my own personal, practical experience in lacerations of the female perineum. As will be observed, it is by no means extensive, but, slight as it is, it has not failed to be suggestive.

If natural, unaided parturition, which we must regard as a healthy physiological function, is not unfrequently followed by pathological and necrological results, the immediate closure of a ruptured perineum by sutures tends to favor these results, by reason of the sources of infection their puncta create. The fact that in many instances these results do not follow the immediate operation does not in the least detract from the soundness of the position here taken.

An open, unsutured, non-uniting, but cleanly rupture is certainly not so likely to become infectious as a closed, sutured, ununiting and therefore uncleanly laceration, leaving out of the consideration the foci of infection produced by the sutures alone. Upon this point, Dr. Goodell submits the following, in his "Lessons in Gynecology" page 75:—"The fears of sepicæmia entertained by some physicians are purely hypothetical; for although the suture-tracks form, in one sense, new foci of infection, yet they close up a raw surface whose area is vastly larger than theirs."

But there is a certain proportion of cases in which these raw surface, although sutured, do *not* unite and in which, therefore, the suture-tracks *increase* largely the area of exposed absorbing surface, and, hence, increase also, the risk of danger. It is in the interest of this certain proportion of cases that I write, and that this subject should be discussed; for if it can be shown that death occasionally results from septicæmia, due to the immediate operation, and very seldom if ever from the remote, and that nature alone, if let alone, with favorable conditions, would be more frequently successful in effecting a cure, our rule of action is made plain. Parturition, under the most favorable circumstances is attended with great risk, and if we can well postpone an operation which would have the least tendency to increase this risk, it is our duty so to do.

If, then it could be established beyond a reasonable doubt, that, all things being equal, in all cases of ruptured perinei in which art succeeds in effecting an immediate union, nature should likewise prove successful, the immediate operation should never be attempted.

Correspondence.

FOREIGN NEWS.

London, June 12, 1882.

Editors Lancet and Clinic:

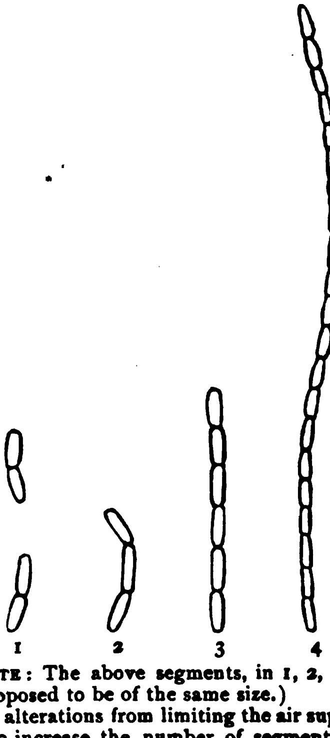
I have thought that it would probably be of interest to your American readers to learn some facts in connection with the subject of micro-organisms, which have been brought out by the indefatigable perseverence of the eminent Dr. Klein in the course of his investigation of the bacillus of *Anthrax*. The English government was fortunate enough to employ Dr. Klein to repeat the experiments of *Pasteur*, and to do what he could to advance the etiology of anthrax and to throw light upon the natural history of the organism upon which so much has been written and upon which it appears, judging from Dr. Klein's results, that Pasteur has gained an undeserved amount of praise.

By special appointment, I had the honor of meeting Dr. Klein in his laboratory at the Brown Institute this morning, where he spent four hours showing me his methods and furnished me the facts I give you, which, he said, he was glad to do, especially as the contract he had with the government prevented him from publishing the detailed experiments except through the official bureau and that is very slow.

In the first place, Pasteur asserted that the bacillus of anthrax could be cultivated in broth, and when cultivated at a temperature below 40° C. it developed itself by spores, and retained all its virulence to produce the disease, but when cultivated in a chamber, kept at a temperature of 43° C. it developed by fission and not by spores. Further, that when it developed at 43° C. and the process was continued for some months that the bacillus underwent a series of gradations in virulence and that when sufficiently "attenuated" it could be used for protective vaccination.

Dr. Klein confirms the first part of this assertion, viz.: That kept in an artificial cultivating fluid at 43° C. the bacillus of anthrax does not develope spores, but his experiments reach further, and prove that the result which Pasteur reached was not due to the temperature alone. Dr. Klein next by an ingenious set of experiments showed that the bacillus of anthrax could be cultivated at a temperature of 25° C. and, under a limited supply of air, would not produce spores. And he also found that the form of bacillus was somewhat altered by limiting the supply of air.

Showing the following gradations by successively limiting the supply.



(Note: The above segments, in 1, 2, 3 and 4, are supposed to be of the same size.)

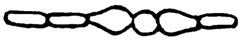
The alterations from limiting the air supply are, first, to increase the number of segments which are joined together, and also to decrease the *physical-vibratile* activity of the bacillus itself.

From a continuation of this process of artificial cultivation in the same apparatus and without adding more nutrient fluid, he found, after a time, which was between two and three months, that the organism disappeared from the fluid altogether. And by some more indefatigable German industry he has shown that the organism is born, lives its lifetime, produces spores which he thinks stand in the same relation to this bacillus as seeds do to plants, and finally the organism degenerates and dies, and that in a given fluid you can find all ages.

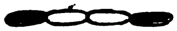
1. Youth.
2. Adult—giving rise to spores.
3. Old age—degeneration and death.

He also shows the forms of degeneration of the protoplasm of the segments of the bacillus to be at least of three kinds.

1st. The segments swell up into globular masses and soon after lose their protoplasm and disappear in the fluid, *e.g.*,

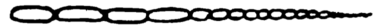


2d. Where the protoplasm is gradually dissolved out, leaving only the empty cell membrane behind, *e.g.*,



(The result is shown by the fact that the segments do not refract light like the others and the membrane is still seen.)

3d. The segments break up into granules which gradually disappear, *e.g.*,



(This third way of degeneration is quite distinct from the formation of spores.)

In regard to the virulence he finds that so long as the cultivating liquid contains spores or a living bacillus, that it will in guinea pigs invariably produce the disease with fatal results. And so far as guinea pigs, rats, rabbits and mice are concerned that protective vaccination from artificially cultivated bacilli, no matter what the means of cultivation are, is impossible. And I think I can say that he has proved that the variation of the fluid when inoculated upon *white mice* is due to individual peculiarities of the mouse which is being operated upon.

It was from the results which he obtained in the mouse that Pasteur drew his most startling conclusions, and Dr. Klein says these conclusions of Pasteur are "the merest rubbish."

The experiments continue at the Brown Institute and in a short time sheep will be used instead of mice, guinea pigs, rats and rabbits, which have constituted the animals experimented upon up to this time. Dr. Klein has kindly invited me to be present to see the methods and to learn with mine own eyes the results, and it is quite possible that I may have something further to add upon this subject from London.

At the present moment, from the facts I have already given, one thing seems certain and that is "war to the knife" between Klein and Pasteur. The former says it will take him at least two years to exhaust the scope of his present labors on anthrax, without allowing for any new points which are certain to arise,—while the latter says he has completed the subject of the etiology of anthrax. Fortified by impregnable experiments, I am quite certain that the *German* will be found on top in the end, and it is time to call *halt* to Pasteur and his enthusiastic followers and bid them pursue the slow, laborious, yet more worthy example of their German neighbors, and also give credit and honor to whom it is due.

I have given you these few facts because they are fresh and interesting at this time when so much is being said upon micro-organisms in connection with disease.

Trusting too, that this little bit of information, which has not as yet found its way into print, will be of interest to you and your readers,

I am, very truly yours, W.A.D.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of June 26th, 1882.

WM. JUDKINS, M.D., *Vice-Pres't in the Chair.* W. H. WENNING M.D., *Secretary.*

REPORTS OF CASES.

Dr. **Clara M. Ellsbury** reported the following case of

Psoriasis Palmaris.

Miss M. G., aged 28, consulted me in the spring of 1880, for an eruption on the palm of the right hand. It had made its appearance about three years previous, at that time extending over the whole hand and forearm. The eruption at no time ever extended to any other part of the body, and when I saw her it was confined to the palm of the hand.

She had undergone several courses of treatment for it during this time, but without any permanent result, the disease as often disappearing for several weeks at a time, and then returning again, without treatment as with.

The history, the appearance of the eruption and the course it had run all pointed to psoriasis. The location alone cast doubt on the diagnosis, all authors maintaining that this eruption confined to the palms of the hands or the soles of the feet will in the vast majority of cases prove to be syphilis rather than psoriasis. To further clear up the diagnosis the patient was placed upon a course of iodide of potassium and mercury, the effect of which was negative.

I felt convinced that my first diagnosis was correct, and consequently placed the patient upon a course of arsenic. For the local treatment the hand was thoroughly washed with green Irish soap until all the scales were removed, and then an ointment of common tar was applied twice daily. The hand improved perceptibly and in a short time became quite smooth, but the result was not permanent. Its disappearance had been more rapid, and the interval of its absence longer with treatment than without. This was the invariable result of the various local applications that were made.

The patient married shortly after I saw her and in the spring of 1881 was delivered of her first child. An attack of puerperal fever followed from which she eventually made a good and rather rapid recovery. During this time the eruption disappeared entirely, and has never made its appearance since, now nearly one and a half years.

Neumann says, "this disease appears chiefly in healthy, vigorous persons, and disappears when the nutrition decreases whether from sickness or other causes."

The pathology of psoriasis is quite interesting. Duhring considers it an inflammation due to hyperplasia of the mucous layer of the epidermis. Tillbury Fox does not consider it an inflammation, but a "hyperæmia with hyperplasia of the epidermis, consisting primarily and essentially in a misbehavior of the cell elements themselves."

There is also another theory maintained by Lang in the *Vierteljahrschrift f. Dermatologie und Syphilis* for 1878, a review of which appeared in the *Med. Zeitung* for January. He considers the disease a mycosis, and has named the parasite, which he claims to have found in the epithelial scales, the epidemidophyton. He also says that scales from psoriatic patches placed upon an abrasion of the skin will produce similar patches. In opposition to Lang's theory it is claimed that this same parasite is seen in an eczema and even upon the normal skin. Its transferability is not considered as conclusively proven.

The weight of authority at the present time seems to be to consider the disease a hyperæmia or an inflammation rather than a mycosis.

DISCUSSION.

DR. RANSOHOFF considered the subject presented for discussion of special interest, because psoriasis is one of the few cutaneous diseases that are incurable, at least not permanently curable. The speaker had seen a large number of cases both in private and dispensary practice where the disease disappeared for three or four weeks and then after some time returned again. He was acquainted with a wealthy gentleman of this city who had psoriasis of the elbow and forehead once in six to nine months and consulted a large number of physicians without getting any permanent relief. This gentleman went to Vienna, to the younger Hebra and Kaposi, who both told him that the disease was incurable as to permanent relief.

A frequent cause of psoriasis palmaris (of the palmar surface of the hand) is syphilis, though in reality this form of the disease is not a true psoriasis because it depends upon a cellular infiltration of structures not affected in the nonsyphilitic psoriasis; the patch of a psoriasis palmaris is in reality a papule flattened by the thick epithelial covering peculiar to the palms of the hands and soles of the feet. The frequency of syphilitic psoriasis of the palmar surface does not imply that psoriasis of the dorsum of the hand is necessarily not syphilitic, but as a rule the disease occurs on the flexor surfaces and as the majority of the cases are syphilitic it is safest to put the patient under antispecific treatment.

The etiology of this disease is obscure. The Germans believe that persons of very full habit are most liable to it. Hebra was so impressed with this idea that he laconically asked each patient: "are you a butcher?" Certain it is that this class of people give a larger proportion than those of a less full habit. The English, however, maintain that the disease is more apt to attack ill-nourished individuals.

Dr. Ransohoff was confident that psoriasis is not a mycotic disease because its heredity is frequently established from generation to generation. It may, however, skip some members of the same family in its transmission from parent to offspring. Often the disease in the father is of so old a date that on being questioned he cannot recollect his having been at any time afflicted with it until the patches are discovered.

As regards treatment it may be said that psoriasis vanishes readily—temporarily. The internal administration of arsenic with the local application of sulphur, green soap, chrysophanic acid (especially the latter) will push out a recurrence of the disease for a long time but eventually it will return and must be again combatted anew.

DR. THAD. A. REAMY remarked that his experience fully corroborates the view that true psoriasis is incurable. Psoriasis palmaris is often curable, indeed generally, because it is due to secondary or tertiary syphilis. This disease ending, as it sometimes does, spontaneously by limitation, and as it more often does as a result of treatment, the psoriases disappears; but as had already been pointed out, this variety of psoriasis differs from the true and incurable varieties in etiology and in its anatomy.

He had had under his care two cases presenting some curious features.. One a gentleman, thirty-five years of age, a man of education and culture, had never so far as observation went had a primary syphilitic lesion, though the gentleman freely confessed to frequent exposure. When he placed himself under the speaker's charge psoriasis palmaris was well marked in both hands. The patient had been under antisyphilitic treatment then six months. He was continued upon iodide potassium and bichloride of mercury alternately and kept upon such a course for a year longer. At times psoriasis palmaris (the only evidence of syphilis present) would disappear, to return again at the expiration of two or three months. The gentleman was engaged to be married, the wedding had already been postponed once. Under advice of the speaker it was postponed again. At the expiration of two and a half years from commencement of treatment, two years after the case was under Dr. Reamy's charge, and when the psoriasis had not been observed for more than six months, since further postponement seemed impracticable, marriage was consummated. As a matter of safety the antisyphilitic treatment was employed at intervals after marriage. In fourteen months after marriage the wife gave birth to a syphilitic child which died within two months.

This sad case, with others which had come under his observation, was in the speaker's mind not long since when in a discussion in the Academy he had declared it as his opinion that all persons who had suffered of constitutional syphilis, even though a cure may seem to have occurred, should be denied the right of marriage. He would grant a possible time of safety in special cases, but the proportion of such cases to the whole number affected is much smaller than is generally conceded; moreover the time of safety, when it exists, is difficult to detect or differentiate. The Academy would remember the case quoted by the speaker in the discussion referred to where a man had begotten a syphilitic child twenty-five years after both the individual and his physician had supposed him thoroughly cured.

Dr. Reamy had carefully read the able work of Fournier on "Syphilis and Marriage," but it had not changed his own views. The perils of innocent and unsuspecting women who by thousands annually come to the marriage bed to be themselves tainted and unwittingly to be participants in sending into the great stream of life posterity filled with the seeds of incurable disease cry the alarm. The common interests of society and of the State demand of members of the medical profession unequivocal words of caution when they are consulted in such matters.

The other case referred to was one of syphilitic psoriasis palmaris in a man who had had a primary chancre, but in whose case no other evidence of constitutional infection than the psoriasis was manifested. This yielding promptly to the usual course of treatment.

Dr. Ellsbury said the only interesting point in this case was the diagnosis. Arsenic had been given a thorough trial, and although this agent did not effect a permanent cure the marked improvement following it in conjunction with the local treatment confirmed the diagnosis. No doubt the disease will return again. The child showed no eruption.

Periodical Hiccough.

Dr. Reamy reported the following instance of hiccough coming on periodically each morning. A professional gentleman (a physician), fifty-two years of age, in ordinary health, possessed of more than average physical strength, of thoroughly temperate habits and following a very active life. After feeling unwell for one day previous he was attacked suddenly with hiccough in the evening. This symptom persisted until after midnight, preventing sleep until about two o'clock in the morning when profound sleep occurred. At six o'clock in the morning he awakened with no symptom of the difficulty. After dressing, however, it returned and persisted without intermission all day, preventing sleep the following night as before. The next morning, though not feeling very well, he suffered no symptom of hiccough, but before breakfast he was again seized, the difficulty again persisting all day notwithstanding the use of all ordinary remedies including ether, chloroform, etc. These attacks continued for six days, with the exception of the intermissions after midnight and with the exception of an intermission of about two hours in the afternoon of the fifth day, following the administration of a teaspoonful of sulphuric ether. The patient was rapidly becoming exhausted, the persistence of the symptoms being distressing in the extreme. He attempted, however, in the forenoon of each day to do a little professional work.

On the evening of the fifth day he experienced a pain over the right brow coming on about eight o'clock. On the evening of the sixth day at the same hour this symptom recurred. It had all the characteristics of malarial neuralgia. On the morning of the seventh day hiccough returned again about the usual hour. The patient, who had now become somewhat alarmed lest there might be some obscure organic lesion of the stomach producing mechanical or reflex irritation, or possibly disease at the origin or along the course of the phrenic nerve, seriously reviewed the history of his case seeking to analyze every symptom subjective and objective. The fact of the regular recurrence of the difficulty at about the same hour each morning, associated with the subsequent development of pain over the brow for two consecutive evenings, led to the presumption that malaria might be at the bottom of the trouble. Acting on this supposition he took on the morning of the seventh day, an hour after the hiccough commenced, at a single dose, twenty grains sulph. quinia. The physiological effects of the remedy were very marked. The unsteady condition of the extremities sometimes produced was extreme, but the singultus yielded as if by magic so soon as the full effects of the remedy were appreciable. On the next day about three o'clock a recurrence of the hiccough was experienced, lasting for about an hour; another dose of ten grains was taken and since that time the affection has not recurred. The patient has almost completely recovered his usual health.

The speaker did not remember to have seen a case of malarial singultus reported; though Waring, in his Practical Therapeutics, recommends quinine when the disease comes on periodically. The treatment in this instance and its conclusive results prove beyond doubt to his mind its malaria origin.

In answer to a question the speaker stated that to his positive knowledge the patient had not partaken of ardent spirits in any form for thirty years, nor had he ever suffered of intermittent fever although he had lived during the earlier years of his professional life in an extremely malarious district.

Dr. Muscroft thought the cessation of hiccough in this instance might have been due to the sedative action of quinia. We have these periodic manifestations of certain affections even where there is no malaria. In traumatic troubles, for instance, we have exacerbations every other day where these symptoms yield to the sedative effects of large doses of quinine.

Dr. Muscroft remembered a case of organic disease of the diaphragm where the hiccough was most distressing and could not be relieved. The diagnosis of organic disease of the diaphragm was made before death, when the patient was seen by the speaker and the late Prof. Graham. Post-mortem examination verified the diagnosis as the right upper side of the diaphragm and the pleura which was adherent to it were found diseased.

Dr. Reamy replied that the associate brow symptom and the manifest arrest of the attack led to the inference of malarial origin. He did not know if the antimalarial qualities of quinine arrested the attack, but the inference is quite natural when we recollect that Binz, who detected the relation between germs and malaria, clearly proved that quinine is poison to protoplasm and therefore destroys these germs.

He was also aware that hiccough is a most troublesome symptom in other affections. He remembered an instance where a man had had an abscess between the omentum and peritoneum and hiccup had existed a long time during the life of this individual.

Traumatic Tetanus.

Dr. C. S. Muscroft, Sr., reported the following very interesting case of traumatic tetanus. A young lad, fifteen years of age, by occupation a carriage painter, while playing with a toy pistol one week ago (Sunday, June 18th,) accidentally shot himself on the outside of the proximal phalanx of the index finger of the right hand. As the wound was merely an abrasion it excited no alarm and the patient felt as well as usual until on the evening of the following Thursday. Even the next day, Friday, he was not much out of sorts, and he ate as usual, but on Saturday morning he felt a stiffness about the jaws and could not open his mouth. This stiffness increased steadily and when the speaker saw him for the first time at 6 o'clock p.m. of this day the jaws were firmly set and the patient had the characteristic *risus sardonicus*. There was no spasm of the limbs but the abdominal muscles were firmly contracted. The Doctor recognized the case as one of traumatic tetanus and, as deglutition was not disturbed, prescribed one-eighth of a grain of morphia with camphor every two hours and a half-teaspoonful of the tincture of calabar bean. The patient slept but little during the entire night and had then attacks of spasm of the larynx the next morning, one at five o'clock, another at seven o'clock, and the last one at ten o'clock, at which time he died of apnœa. After his death it was ascertained that he was subject to frequent attacks of epilepsy.

Selections.

MEDICINE.

Dialysed Iron in the Treatment of Arsenical Poisoning.—It is not my intention to enter into an exhaustive paper on the subject of "arsenical poisoning," but simply, as a duty, to lay before the profession what I consider a most valuable aid, the administration of dialysed iron. In the smelting of lead and silver ores, one of the worst features is the constant inhalation of arsenical fumes. When first employed by the Alta Montana Company, to take charge of their hospital, a number of cases of arsenical poisoning came under my observation, and they were the more difficult to treat on account of their complication with "leading." I tried the various remedies recommended for such cases, with but poor results. At times I felt that old saying, "Throw physic to the dogs," was but true and applicable. At last I was led to try dialysed iron, and was met in all cases with most gratifying success, as is evidenced.

Two carpenters were engaged in roofing a portion of the smelting building, and were in such a position that the wind carried the fumes into their faces. Some workmen below noticed one of the men swaying to and fro, and about ready to fall, while the other was laboring hard to reach the ground. They were helped to the hospital, and were suffering with severe pain in stomach and bowels, nausea, vomiting, vertigo, and with a profuse "nose-bleed," tremor in lower limbs, and almost prostration. A wineglassful of dialysed iron was given immediately. The nausea ceased, and at the end of one hour the men were able to walk to their cabins, carrying with them a bottle of the iron, to be taken in drachm doses every half hour. At the end of twenty-four hours they complained only of weakness, such as would result from a severe diarrhœa. The second day they resumed work, entirely free from all pain and effects of the arsenic. A number of men employed about the smelting furnace, and especially in dipping the molten lead, have been apparently prostrated, from the effects of the fumes, and were in every case relieved by dialysed iron. A mild purgative was given within twelve hours. I have recommended, and, indeed, insisted on, every man who is exposed to arsenical fumes, taking a dose of the iron daily. The consequence has been, that we had but one case of poisoning needing hospital treatment, and this one insisted that his case was one of "indigestion and dyspepsia," and would take nothing till compelled to enter the hospital, where, under the administration of dialysed iron, he speedily recovered.

In the past two years, I think I am safe in saying that fully two hundred cases of arsenical poisoning have been cured in this camp by dialysed iron. I could cite any or all of them, with symptoms, treatment, etc., but I think it unnecessary, as they so nearly resemble those already mentioned; suffice it to say, that all experienced the nausea, griping, vomiting, muscular tremor, etc. I have given the iron, in half-ounce doses, three times daily, with no constitutional disturbances whatever, even after ten and often twenty days administration. The teeth are not discolored, bowels not constipated, and digestion not deranged.

The men had learned its virtues, and come regularly with "please fill my iron bottle again." They will not do without it, any more than an Irishman will do without his "salts and senna." It has saved many a man his wages and many a day of sickness. In fact, I feel convinced that this preparation is indispensable where men are liable to inhale the fumes of arsenic.

Without a remedy of this kind, I am satisfied no man, however strong, could inhale the fumes incident to smelting, where the ores contain arsenic, and stand it more than three or four days. I can fully and confidentally recommend this preparation of iron to the profession, and even to foremen of smelting works where there is no physician, for it is harmless and invaluable. "An ounce of prevention is worth a pound of cure;" or a "pound of cure," is worth infinitely more to a company, than are hospitals full of men poisoned with arsenic. Our hospital has been built, medicines bought, physicians and nurses paid, and accommodations for thirty beds provided, inside of two hours, by a small monthly assessment on each miner and laborer employed by the company, and all are satisfied; none more so than the smelter hands, who can and do get a "bottle of that iron," and keep at work.

The preparation which I have used, and to the good effects of which I can testify, is Wyeths, of Philadelphia.—A. M. Bullard, M.D., of Wickes, M. T., in *Medical and Surgical Reporter.*

SALICYLIC PSYCHOSIS.—Salicylic acid and its salts are daily growing in importance as therapeutical agents in certain diseases. The brilliant results obtained by the use of these remedies in acute articular rheumatism, and to some extent also in diabetes, as well as their antiseptic and antiphlogistic properties, have made them favorite remedies. But as there is no rose without thorns, in likewise salicylic acid is not without some disadvantages, which cannot be ignored. The following case will show what unpleasant consequences sometimes follow the internal use of salicylic acid even in comparatively moderate doses.

On June 28, 1881, the peasant woman M. M. entered the Rostof Circuit Hospital. She complained of aching in the legs and general debility. A year previously she had taken cold, whilst washing clothes in the river, in stormy weather. Two days later she had a chill and fever, with swelling and intolerable pain in the joints, first in the knees, then in the shoulders, and finally in the phalangeal articulations of the fingers. In about two weeks the pain began to abate and gradually she was able to resume her usual occupation. In less than a month, however, and without apparent cause the pain returned, settling exclusively in the knees and the articulations of the index and third finger of the right hand. Since that time the pain had continued with variable intensity during the year. During damp and stormy weather it was so severe that the patient was deprived of sleep and appetite, and had to remain motionless in bed. Since April she has not been able to leave her bed because her "feet would not bend."

She entered the hospital during one of the periods of exacerbation, being unable to endure the excruciating pain. During all her illness she had not applied for advice or help to anyone. Previous to this disease she had always had good health. In her family there had never been any case of mental or serious nervous diseases. She had always led a sober, laborious, and abstemious life. Her occupation was labor in the field and garden. The hygienic conditions of her home, like those of most peasants in the Yaroslaf Province, were unsatisfactory.

She is forty-four years old, but appears much older; her face is emaciated and bears a suffering expression; her head is of normal shape. The knee-joints are enlarged, so that the outlines of the patella and the articulations in general are obscured. The integument is œdmatous, but of normal color. Mobility of the joints is considerably impeded. The posterior tendons of the thighs are contracted. On making passive motion there is audible a slight grating and pain is produced. There was no fluctuation. The enlargement of the knee-joints is the more obvious because the adjacent muscles are atrophied, etc. Evidently we have to do with a temporary exacerbation of chronic articular rheumatism, originating as a sequel to the acute disease in consequence of poor hygienic conditions, poor food, and lack of treatment. Her organs of special sensation acted normally, and she had neither hyperæsthesia nor anæsthesia; her mind was sufficiently developed and clear, and we could not detect anything abnormal in her mental condition. But she was very weak and downcast, and showed some nervous irritability. She suffered from insomnia.

As previous experience had taught me that salicylate of soda is most efficient in that form of chronic rheumatism, which follows the acute attack. I prescribed a solution of salicylate of soda (one drachm to six ounces) in tablespoon doses every two hours, and ordered the affected joints to be painted with tincture of iodine. On the 30th she felt better and had but little pain in the joints. The night she had passed very comfortably and had some appetite. The bowels had acted normally; her temperature was 26.8° and 37.2°; pulse, 76. The same treatment was continued. On the 2d of July she felt very well and the pain had left her entirely. Appetite and sleep were satisfactory and she was very cheerful; temperature 36.9° and 37.2°: pulse 72.

In this condition she continued till the 8th. The temperature never exceeded 37.5° and her strength began to return. Only the swelling and immobility of the joints remained unaltered so that she could not walk. During the ten days of her stay in the hospital she had taken altogether five drachms of the salicylate of soda, namely thirty grains per day.

On the 8th she did not feel well. She complained of annoying noises in the ears and a heaviness in the head. She had no appetite and her tongue was furred. Although she had no pains in the joints, she had not been able to sleep at all during the night. She was much discouraged and irritable. Temperature 38.2° and 38.9°; pulse full, 84. Instead of the salicylate I prescribed bromide of potash. The night from the 9th to the 10th she did not sleep and at 3 o'clock in the morning she became very much excited, talking uninterruptedly and with gesticulation to some imaginary persons; jumped frequently from the bed and looked anxiously out of the window. Although she had always been very modest and quiet, she now used improper language and scolded the nurse with indecent epithets; laughed frequently, sang snatches of songs and seemed very merry.

At 8 o'clock in the morning I found her in the following condition: She was sitting on her bed, swinging her feet and laughing; her face was red and edematous; the eyes injected and wandering. The expression of her face was wild and changed continually. Her head was hot. The pupils were moderately enlarged and reacted to the light. The jugular vein stood out prominently; temperature, 37.8°; pulse full and hard, 120; breathing, 24. She was very much excited and merry. Talked incessantly and incoherently about family occurrences and occasionally in an amorous fashion. Her moods changed frequently; she moved impetuously and gesticulating with her hands, continually changing her position. Catching sight of a man she smiled coquettishly, asked him to sit down closer to her, and pressed and stroked his hand. She used ambiguous expressions, and tried, without any occasion, to expose her limbs. In answer to a question about her health she said: "Thank God, all is well; they are going to take me away presently in a state carriage," she apparently had hallucinations of sight and hearing. She had neither appetite nor stools. She was transferred into the psychiatric division of the hospital where the bromide of potash was continued with the addition of chloral hydrate for the night.

On the 11th her condition was unchanged. On the 12th at noon she fell into a profound sleep and slept six hours, after which she woke up and asked for some tea. She had an imperfect remembrance of her condition during the preceding days.

On the 13th she was quite rational and felt pretty well; had no pain in the joints. In her mental condition nothing abnormal could be detected even on most careful examination. She was therefore re-transferred to the general therapeutic ward, where she remained for nine days longer and was then discharged. Her rheumatic condition was considerably improved. The mental disorder had disappeared without a trace.

Considering this case we naturally ask: What caused the attack of acute mania in our patient?

The explanation might be threefold:

1. The psychosis might have been an accidental complication, dependent on remote causes having no connection with her disease—rheumatism, or
2. It might have been a result of the rheumatic process, or
3. And finally, it might have arisen from the use of the salicylate, which is known occasionally to act unfavorably on the nervous system.

Let us see how much probability may be claimed for each of these three explanations. Previously to the 8th and subsequently to the 13th of July her mental condition had presented nothing abnormal. We know that she always had had good health of body and mind, and that there was no hereditary disposition to mental disease. This is sufficient to exclude chronic mania. Neither had her affection a sufficient resemblance to the mania transitoria of Krafft-Ebing, for there had been no preceding mental shock. Neither did she evince any manifestations of terror or impulse to violent destructive actions. Further, in mania transitoria the attack lasts only a few hours, and when it has subsided the patient remembers nothing of what has happened.

With equal right we must exclude in our case the so-called rheumatic psychoses, for they appear only during the course of acute articular rheumatism, and they are preceded by severe pain in the joints, insomnia and high fever (Tüngel). Moreover, rheumatic psychoses generally take the type of melancholia, less often that of mania (Simon).

We are therefore forced to conclude that the present attack of mania was the result of the salicylate of soda. That this drug is capable of producing temporary functional disorders of the central nervous system is admitted by many clinicists.

Diesterweg, for instance, observed in two patients something like alcoholic intoxication from the use of salicylate of soda. Finlay and Lucas mention cases in which it produced nausea, vomiting, headache, and delirium. Charkey observed nervous irritability, accelerated respiration and uneasiness. (However, he had never observed delirium, although he had treated one hundred and fifty cases with salicylate of soda). Stricker has observed, in some patients, a cheerfulness simulating drunkenness, which lasted twenty-four hours and ended in profound sleep.

If we are to judge from our patient, who was anæmic and weak, we should say that in similar subjects the salicylate should be used carefully. Five drams, taken in the course of ten days, were sufficient to consign our patient to the lunatic ward, yet many physicians believe these doses to be too small, and prescribe this far from inert remedy with an open hand.—L. Bogdanof in *Vratch.—Physician and Surgeon.*

ON THE TREATMENT OF EPILEPSY.— Künze treated thirty-five patients suffering from epilepsy, with complete successful results in nine of them, by means of curare. The published cases show that complete recovery occurred in very severe cases of epilepsy, even when the disease had existed for years, and the intellectual faculties had become affected. Acting upon these results, Prof. Edlefsen has investigated anew the effects of treatment by curare in certain grave cases of epilepsy, since the effects of treatment whether by the bromides or by atropia are not so entirely satisfactory as to render all other methods superfluous. He employed the formula recommended by Künze, filtering the solution before injection it—Curare, 0.5 grammes; aq. dist. 5.0 grammes; acid. hydrochlor. gtt. 1, digere per xxiv. horas, dein filtra. Of this solution one-third is to be injected every five days; as a rule it neither causes much pain nor any noticeable reflex symptoms; in no case did it cause any toxic phenomena; still it is necessary to ascertain the trustworthiness of the preparation of curare before employing it. Two cases of hystero-epilepsy were not benefited by this treatment, whilst of thirteen cases of true epilepsy, the majority characterised as severe cases of old standing, six were not permanently improved, whilst three were completely, and up to the present, permanently cured. Three other cases, although not cured, were distinctly improved, the attacks being interrupted for several months. One case is still under observation, and promises to be successful. Prof. Künze recommends that the treatment be given up if there be no sign of improvement after the fourth or fifth injection. (*Centralb. f. klin. Med.* 1881; *Med.*

Chir, Rundschau, Oct. 1881.)—Dr. G. Ferraud sums up the recent results of treatment with bromide of potassium at the Salpetriere (Paris.) The cases of eighty-nine female patients are analysed as follows: 13 per cent. very greatly benefited; 57 benefited; 18 slightly benefited; 12 not benefited. Minimum daily doses of 5-6 grammes for women and 6.8 for men are recommended. Legrand du Salle continues to give the salt on six days of the week for the first three months after the fits have ceased for a year, and afterwards on three successive days in each week. Arsenic is found useful in the acne produced by the bromide, and to avoid serious weakening of the memory coffee is ordered for all patients whose daily dose is more than 7 grammes.—*Neurologisches Centralblatt*, Jan. 1882.

Spina Bifida Cured by Injections of Iodine. Mr. A. Pearce Gould reported the following case to the Clinical Society of London (*British Medical Journal*): A boy, aged six months, was brought into the hospital, with a tumor over the lumbar vertebra about the size and shape of a large tomato. It was translucent, fluctuating, sessile, covered with healthy skin. The child was otherwise perfectly healthy. The tumor became tense when the child cried, and pressure on it caused fullness of the anterior fontanelle. One ounce of fluid was drawn off, and one drachm of Morton's iodo-glycerine solution injected. This producing no effect, the operation was repeated a week later, when half a drachm of the same solution was injected. After this the tumor became solid and shrank, The fluid removed was analysed, and found not to contain even a trace of sugar, showing that it was arachnoid and not cerebro-spinal fluid. During the discussion that followed it seemed to be the sense of the Society that while this was the best treatment known at present, for spina bifida, the successful cases were very few and far between. The President, in conclusion, stated that he believed that Dr. Morton now thought it advisable not to draw off the fluid from the spina bifida, but merely to inject the fluid, that being quite sufficient for the treatment of the case.—*Medical and Surgical Reporter*.

Acne Filaris and Acne of the Face.—M. Lallier, of the Skin Hospital (St. Louis) thus treats acne filaris, which develops itself on the forehead, near the hair, slightly resembling eczema:—1st. The following lotion to be applied every night:—Sulphur (flowers) ʒvj.; alcohol ʒiss.; water ℥j.; 2nd. Alkaline baths. 3d. Take at each meal half a teaspoonful of bicarbonate of soda in a little sugared water. As to acne of the face, he applies every night with a hair pencil, the follwing preparation: Water ℥iv.; camphorated spirits ℥j.; washed sulphur ℥ss.; glycerine, ʒiiss.; which is carefully washed off in the morning. When sulphur does not succeed in the treatment of acne, recourse may be had to black soap, which can be employed for four consecutive days, after which abstention is enjoined, when the treatment can be recommenced; and so on until the patient is cured. But as the general health generally requires looking after, M. Lallier orders tartrate of iron, ℥ss.; aloes eight grs. for 100 pills; two to be taken at each repast.—*Med. Press*.

Asclepias in Dropsy.—*Asclepias syriaca* (milkweed) has recently been found by Dr. C. Spurway (*Brit. Med. Jour.*) to be of great value in the treatment of dropsy. He uses the homœopathic mother tincture. The dose given was from two to five minims per diem, utimately increased to and maintained at seven minims per day. The dropsy arose from diseases of the heart. The drug is not used by the homœopathic school in the treatment of dropsy, although an article of their pharmacopæia.

Pyrethrum as a Remedy for Phtheriasis Pubis.—A correspondent of the *Druggist's Circular* has used, for the destruction of pediculi pubis, the ordinary Persian insect-powder. The efficiency of this treatment once fully established, the demand for mercurial ointment may be expected to decline. The powder may be perfumed, if desired, with any essential oil, or possibly—if the specialists prefer—with iodoform.—*Phila. Med. Times*.

Phenic Acid in Whooping-Cough.—Dr. Aymerich recommends in the treatment of whooping-cough the employment of phenic acid with bromide of potassium—bromide of potassium ʒj.; phenic acid three to four grains; syrup of lemons q. s.; vehicle ℥vj. A large or a small spoonful according to the age of the patient, every two hours. He has never seen any accident to follow from the antiseptic agent.—*Med. Press*.

Treatment of Syphilitic Chancre by Excision.—Dr. Paul Spillman (*Annales de dermatologie et de syphiligraphie*) gives an account of eight cases in which syphilitic chancres were treated by early excision. The results were not encouraging. In two cases only did constitutional symptoms not become speedily manifest.—*The Practitioner*.

Injection for Sciatica.—Lereboullet recommends, in cases where morphia is badly borne, the following solution for hypodermic injection:

℞.	Morphiæ hydrochlor,	30 cgm.
	Atropiæ sulph.,	12 "
	Aquæ destillat.,	10 grammes.

Half a syringeful every six hours.—*Union Medicale*.

Ergotin in Night-Sweats of Phthisis.—Da Costa considers ergotin the best remedy for the night sweats of phthisis—two grains three or four times a day. It is less prompt than atropia, but it is free from any unpleasant effects, which the other is not.—*Maryland Medical Journal*.

Laveran's Malaria Parasite.—In the May number of the *Archives de Medicine Navale*, Dr. Corre, of the French navy, expresses strong doubts as to the parasitic nature of the bodies which Laveran has considered to be the germ of malaria, and which he found in the blood of persons suffering from that disease. He shows that the forms observed by Laveran occur only in the acute forms of malarial fever, in which Hayem has pointed out that the red corpuscles are diminished in number and decomposition-products appear in the blood, and is disposed to agree with Kelsch in considering Laveran's parasite to be merely pigmented corpuscles due to retrograde metamorphosis.—*Phila. Med. Times.*

ON THE TREATMENT OF PIGMENT SPOTS.—Dr. Unna (*Berliner Klin. Wochenschrift*) has treated pigment spots very successfully by his medicated muslin bandages. He cuts pieces of the muslin imbued with white precipitate or mercurial ointment about the size of the spots which are to be treated, and after having had the skin cleaned with *Eau de Cologne* or alcohol they are carefully applied at bedtime. The parts are washed in the morning and covered with a pomade composed of

Oxide of Bismuth.
Kaolin, āā 5 parts.
Vaseline, 20—40 parts.

—*The Practitioner.*

INHALATION of five to ten drops of amyl nitrite will break up the chill of malarial fever; so will the hypodermic injection of one-sixth of a grain of muriate of pilocarpine. It is said that twenty drops of oil of turpentine will control the diarrhœa of typhoid fever. Two to five drops of wine of ipecacuanha three times a day will, in the majority of cases, check the vomiting of pregnancy.

— *Independent Practitioner.*

SURGERY.

A CASE OF GASTROTOMY FOR CANCEROUS STRICTURE OF THE ŒSOPHAGUS.—George R. Fowler, M.D., of Brooklyn, contributes this article to the *Annals of Anatomy and Surgery.*

January 8th, 1882, M. F. (male), aged 53 of German birth, and a workman in a varnish factory, applied to me with the following history: For four months past he has complained of shooting pains from epigastrium and left hypochondriac region to the throat; coincidently occurred progressively increasing difficulty in swallowing other than liquid food, and emaciation. No history could be obtained of syphilis; the patient had no knowledge of there being any malignant disease in his family. He had been an immoderate drinker of beer, but seldom indulged in spirituous beverages.

At the time of presenting himself for treatment, the patient was able to swallow but the smallest possible amount of food, and that with the greatest difficulty. The darting pains were increasing in severity. He had lost forty pounds in weight since the preceding August. Examination with bulbous bougie disclosed a stricture of the œsophagus at a depth of 25 cm. trom the prolabia. Ater several trials I succeeded in passing through the stricture and into the stomach a number 12 (F.) bulbous whalebone bougie. The strictured point seemed to be 3 cm. in length. Numbers 15, 18, 21, 24, 27, 30, 33, 36 and 39 (F.) were subsequently passed successively, the withdrawal of the last number being followed by a slight trace of blood. The patient then drank a cup of milk with greater ease than he had swallowed for several weeks. He was ordered nutrient enemata, and to drink milk and brandy as often as every three hours, if possible.

A number 36 (F.) œsophageal bougie was passed daily for a week, when a new obstruction was discovered opposite the cricoid cartilage, which latter increased rapidly although the patient could still swallow liquid nourishment, and even raw oysters if well masticated. In view of the fact that the frequent passing of bougies and swallowing of food were irritating the growth in the œsophagus and leading to its more rapid development, the operation of gastrotomy was advised by me and accepted by the patient.

On January 17th, aided by my assistant, Dr. C. J. Beasley, and several professional friends, I proceeded as follows: Since the early morning the patient had taken, by my direction, four ounces of brandy in small doses. About five minutes before the administration of the ether, thirty drops of dilute hydrochloric acid in an ounce of water was administered to the patient, this being followed in two or three minutes by one ounce of a saturated solution of bicarbonate of soda. He was then brought rapidly under the influence of the anesthetic, and, all antiseptic precautions being observed, an incision about 7 cm. in length was made upon the left side of the epigastrium, parallel with the eighth rib and a half inch below the same, commencing near the junction of the costal cartilage of the seventh rib with the sternum. The skin, superficial and deep fascia and left rectus and transversalis muscles were successively divided. After arresting hemorrhage from all bleeding points, that from the vessels divided with the rectus muscle being particularly abundant, the transversalis fascia and parietal surface of the peritoneum were divided upon a director. The anterior wall of the stomach now crowded itself into the opening, owing to the distension of the viscus by the carbonic acid gas evolved by the commingling of the acid and alkaline solutions administered previously. The stomach was easily identified by the vena gastro-epiploica and the fringe-like attachment of the mesentery at its greater curvature; the stomach being drawn out through the incision for this purpose. That portion just above the greater curvature, and which presented itself first at the abdominal opening was then transfixed by two long steel needles placed at right angles to each other, their extremities resting upon the abdominal walls. This served to steady the stomach and dispensed with the services of an extra assistant at this stage of the operation. Interrupted sutures of carbolized silk were now passed through the entire thickness of the abdominal wall, including the peritoneum, and thence through the walls of the stomach in such a manner as to take in, at each stitch, a fold of the stomach wall about two lines in width. A circular portion of the stomach, about three cm. in diameter was thus included in a circularly arranged single row of thirteen sutures. I deferred opening the stomach until adhesions had formed between the serous surface of that organ and the parietal layer of the peritoneum, to which it was now closely applied. All the details of the Listerian method were strictly followed in the dressing. The patient rallied well from the operation, declared himself to be perfectly comfortable, and suffered nothing from shock. He was ordered a continuance of the nutrient enemta, and to take small portions of food occasionally by the mouth.

Upon the evening of the day of operation the patient suffered from violent fits of coughing whenever he attempted to swallow food; one-third grain doses of sulphate of morphia were required before the distress finally subsided, nourishment ordered to be swallowed only in the smallest quantities. The cough, however, returned at intervals, and the patient's fear of its recurrence was so great as to prevent him from making any attempt at swallowing unless strongly urged to do so.

Five days after the operation the dressings were removed and the wound found to be in an aseptic condition. The abdominal parieties and walls of the stomach seemed to be adherent, and, as the silk sutures were causing some irritation, I removed them and completed the operation by making an opening in the stomach five cm. long with a small tenotome. The long axis of this slight puncture was at right angles to that of the original operation wound. A small tent of marine lint was fitted in the opening and a bandage applied. The patient did not take an anæsthetic during this part of the operation, and did not complain when the stomach was punctured.

The course of the case, from the day of the first operation until puncture of the stomach had been almost a febrile, the temperature ranging in the neighborhood of 99° Fahr. Four and a half hours after the latter procedure, however, the thermometer registered 103°; in the course of twenty-four hours it fell to 99½°.

Attempts were now made to feed the patient through the fistula; no difficulty was encountered in doing this, but the sight and presence of the food excited the salivary secretions, and these, in turn, when attempts were made to swallow them, and even when they simply rested in the buccal cavity and fauces, produced such violent efforts at coughing that the fluids were forced out again through the fistula. Ingestion of food could be accomplished only when the cough was not present, and its absence could only be insured by keeping the patient almost completely narcotized. When sputa was expectorated during the attacks of coughing, it was found to be streaked with bright blood. Under these distressing circumstances very little could be done for the unfortunate man. The nutrient enemata failed to sustain him, and he sank and died on the fourteenth day after the operation.

At the autopsy, made the next day, it was discovered that a cancerous infiltration occupied the whole circumference of the gullet from a point opposite the cricoid cartilage downward for 10 cm. This had ulcerated through into the trachea at a point opposite the bifurcation of the air tube and the primary bronchi; the communicating opening at this point was 4 cm. in the vertical by 2 cm. in the transverse direction; its edges were thin, ragged and irregular. The edges of the gastric fistula were rounded off evenly and smoothly; the wound in the abdominal parietes was healed; the adhesions between the parietal layer of the peritoneum and the serous coat of the stomach were easily broken down; in fact, their separation was not unlike the pulling apart of two layers of wetted blotting-paper. Nothing of this kind was observed during life, however, and no food certainly had passed into the cavity of the peritoneum. No traces of peritonitis, except such as were within the circle of sutures, were found.

REMARKS.—This must be looked upon as a successful gastrotomy, the patient, although perishing, finally dying from causes entirely beyond the control of the operation itself. The purposes and resources of the operative procedure were fully demonstrated. There are many points worthy of special comment in connection with the case, among which may be mentioned the following:

First. The entire uselessness of attempting the employment of dilating bougies in these cases of malignant disease of the œsophagus. The case under consideration illustrates this most forcibly. Here the attempt was made to dilate the gullet in order that sufficient food might be ingested *per vias naturales* to sustain the patient while the different stages of the operation were being accomplished. It only resulted, however, although dilatation was accomplished, in the more rapid growth of the disease, in the hastening of its breaking down into ulceration, and in the establishment of an œsophageo-tracheal fistula. That the destruction of so large a portion of the posterior tracheal wall and the consequent pouring of saliva and putrid secretions from the ulcerated cancerous mass into the air passages, together with the exhaustion following upon the harrassing, strangling cough, to say nothing of the fact that the efforts at coughing would force the contents of the stomach out through the gastric fistula; that this condition, with its long train of horrors, may have been due to the irritation of dilating the stricture, and the forced alimentation *per orem* subsequently is a proposition to be fairly and squarely met. In my opinion, in a case of stricture of the œsophagus with no history of traumatism and in a patient at the cancerous age, except for purposes of diagnosis, no instrument other than the softest rubber stomach tube should ever be passed along the diseased œsophagus; and I am not without doubt that the passage of food itself, when swallowed with difficulty, adds to the irritation, and so may lead to the more rapid development of the disease. Hence the conviction is forced upon one that, as the case progresses and the difficulty of swallowing increases, the patient should be fed by means of a soft rubber tube passed through the œsophagus into the stomach, this being supplemented by nutrient enemata or suppositories.

The advantage to be gained by the operation of gastrotomy as a measure of relief, or as a remedial agent, are next to be considered. The question will be asked, "Will this operation prolong the patient's life and render his existence more tolerable?" To this question, in my judgment, there can be but one reply: To allow a patient to die the slow, lingering death by inanition, to which condition this disease slowly, but surely leads without offering them at least the chance of escaping its tortures, is certainly unjustifiable; I had almost said criminal.

In the operation itself, as performed in this case, there are several noteworthy points. The adoption of Stephen Smith's suggestion of rendering the patient partially, if not completely intoxicated with alcohol prior to operating, with the view of lessening the subsequent shock was carried out, with what success the sequel proved. The statement that the patient suffered nothing from shock is literally true. It will be noticed that all antiseptic precautions were adopted; this included the use of the spray. The introduction of the antiseptic method has, of itself, robbed the operation of many of its former terrors, an office is likewise performed for most operative procedures involving incision into the peritoneal cavity. Attention is called to the means adopted of inflating the stomach by means of carbonic acid gas, this being evolved in its interior by causing the patient to drink first an acid, and then an alkaline drink. Similar expedients have been resorted to before by others, but by whom I cannot now recall. The incision is that now usually employed, but whether this or any other method is followed, the rule to tie all bleeding points when practicable, and in any event, not to open the peritoneal cavity until every particle of hemorrhage has ceased and the wound is perfectly dry should not be lost sight of. The success of nearly all intra-peritoneal operations is now believed consist mainly in leaving a clean peritoneal cavity behind. A single row of sutures, arranged so as to include about an inch and a quarter of the wall of the stomach, is now considered sufficient. In view, however, of possible instability of the adhesions, a double row would add but little, if anything, to the dangers of the operation, and, I think, would insure a better result. An especially noteworthy feature of the operation is the adoption of the suggestion of Howse—a suggestion of most inestimable value—that of deferring the incision into the stomach until from five to ten days after the stitching of the stomach to the abdominal wall. There can be no doubt about the advisability of thus dividing the operation of gastrotomy into two distinct stages. Bryant, of Guy's Hospital, London, attributes the result of his last three cases—all of them successful—to the adoption of this method. It guards against the danger arising from the passage of the contents of the stomach between the sutures and into the peritoneal cavity, a very grave source of danger. It allows of the application of the strictest occlusive antiseptic dressing, and thus lessens very much the immediate danger of peritonitis.

Again it will be noted that the opening made into the stomach was unusually small. I designed to have as small an opening as possible, believing, as Bryant insists, that the smaller the opening the more easily is the patient kept from being constantly soiled with mixed gastric juice and partially digested liquid food. The opening in this case, however, grew to be larger than I had calculated upon, this, in great measure, being caused by frequent attempts to plug the opening with tents in order to prevent the contents of the stomach from being forced out during the violent fits of coughing alluded to. In another case, I should first feed the patient by passing an aspirator needle through the stomach wall, and using this as a means of conveying food into the stomach.

SALICYLIC ACID AS A REMEDY FOR CORNS.—Traill Green, M.D., of Easton, Pa., contributes the following to the *Medical and Surgical Reporter:*

I wish to call the attention of our profession to Mr. Gezou's remedy for corns, which you published in your journal, July 17, 1880, p. 63. In the "Transactions of the Medical Society of Pennsylvania," for the year 1876, p. 283, I reported the use of salicylic acid in the treatment of corns. I used it first in the treatment of soft corns, but very soon found it would remove hard ones as well. I applied it on cotton, and I can testify to the certainty of the effects of salicylic acid in the treatment of these painful excrescences on the toes.

It occurred to me, when I read Mr. Gezou's prescription, that the collodion which he employed to dissolve the acid would keep it well applied to the corn, and I have used it as prepared by him, in a great many cases, since July, 1880, and I can say with constant success. I have had a preference expressed in favor of the application of the acid on cotton, but I have, in almost all of my cases, used Mr. Gezou's preparation since July, 1880.

The collodion, as already mentioned, fixes the acid on the diseased part, and gives speedy relief by protecting it from friction. The cannabis indica acts as an anodyne, and the acid reduces and loosens the corn, so that it comes off in four or five days, adhering to the collodion. The remedy is applied with a camel's hair pencil, and if the corn is not well cured, the application may be repeated. In four or five days the patient should use a warm foot-bath and rub off the collodion. If any portion of the corn remains the acid should be applied again, and the treatment continued until the whole of the corn has disappeared. The skin will be soft and smooth, as in the healthy state.

The mixture dries immediately, and does not prevent for a moment the use of the stocking.

I have used salicylic acid in the treatment of bunions with like good results.

Collodion as found in the shops makes a good mixture, but I have found Dr. Edward R. Squibb's flexible collodion preferable, as it makes, with the other ingredients of the remedy, a denser fluid. The extract of cannabis should be the solid extract.

I have written this communication because I thought the slight notice of the remedy in the *Reporter* did not attract the attention of its readers, I am sure no remedy has ever been proposed which is so useful in those painful affections of the feet as salicylic acid. There are many diseases of the human body which seem to be trifling and do not receive that attention which is due from physicians and surgeons, though exceedingly annoying to their patients. I have been the recipient of the gratitude of many patients for the relief from suffering which this remedy has given them. Let us do all we can to cure them.

Mr. Gezou's formula, as given in the *Reporter*, is: ℞ Salicylic acid, 30 parts or grs. xxx
Ext. cannabis indica, 5 parts or grs. v
Collodion, 240 parts or f℥ ss.

TEMPERAMENT, IDIOSYNCRASY, AND DIATHESIS IN RELATION TO SURGICAL DISEASES.—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F.R.C.S. (Continued from our last issue).

If I have seemed to insist too much upon mere differences in complexion as being those to which almost all observers unconsciously trust in their endeavors to discriminate temperament in persons in good health, let me ask those who doubt it, to imagine themselves set to classify a group of negroes. It may be that the sameness is not nearly so great between one negro and another as it may appear to us, who are accustomed to deal with persons of very various types of complexion, and that those who have lived amongst them might be able to effect some sort of classification. We know that in a flock of sheep, which, to the untrained observer, all seem exactly alike, the shepherd can usually find distinctive and individual differences. Admitting this, I still doubt, however, whether it would be practicable to apply to a race, in which all the individuals are highly pigmented, many of the facts which have hitherto been held to discriminate temperaments. We can recognize easily individual peculiarities—we can recognize also the peculiarities of race—but if the race be pure and the color uniform, we should have remarkably little to guide us. This remark leads obviously to the suggestion that I am perhaps involving myself in a fallacy, and that it may be the fact that what has been called the temperaments are observed almost solely under conditions in which the race is much mixed. It is certainly true that doctrines on this subject have been developed only under conditions of long-established civilization, and when the population represented those who derived their blood from various sources. Dr. Laycock has given a valuable hint in this direction, and has remarked that we greatly need a British ethnology founded on well-defined, distinct, characteristics. Thus it might be, perhaps, much nearer the truth if we were to classify those who make up our own population not according to complexion, as fair, red, black, &c., nor to some more or less hypothetical vital tendencies as lymphatic, bilious, sanguine, phlegmatic, and the like, but rather a Celtic, Scandinavian, Roman, or English. It is quite true that we should find a comparatively small number who could be definitely placed under any one of these heads, and that the large majority present features of radical admixture which would utterly defy classification. But the same difficulty has to be met by those who prefer to make groups under the head temperament. A large majority belong to no one in particular, and partake of the characteristics of several at once. Modern historical authorities are desirous, I am aware, to have it believed, that the English population is not mixed to anything like the extent which it was formerly the custom to suppose. They delight to claim us as *English* pure and simple, and to mean by the term direct pure-blooded descendants of the Angles and the Saxons. They appeal to the fact if what is called the Saxon invasion—I must ask pardon, the *English* invasion—as to the entire determination of the Romanish British population of which we are now in possession. They appeal also, and I must admit with more cogency, to the almost absolute substitution of a German language for the British tongue. There are however, I think, good reasons, why the student of race and believers in its permanency should hesitate to accept fully this new creed. We have amongst us far too many who possess not only typical Roman noses, but all the peculiarities of character which usually accompany the Roman cast of face. It is more difficult to feel certain as to the persistency of the British or Celtic element since we know much less what its peculiarities were. Whatever the evidence may be as to extermination by the invader of the men who opposed them, nothing is less probable than that the women were included in the massacre. An army of invading and colonizing men would be certain to preserve sufficiently numerous representatives of the conquered race to effect a very material modification of the future stock. Whilst on this subject it is also, I think fair to suggest that the present frequency of the Roman face in England, may not improbably be due in part to prepotency in that remarkable race.

Although I would by no means propose classification by race as likely to be of any great value in reference to clinical research, yet I do seriously think that it would be more practicable, and come nearer to the truth, than the classification by temperament. A glance at what has been attempted in the latter direction will, I think, convince us that even those who manifested the greatest ingenuity, and had possessed the soundest and most extensive knowledge concerning health and disease, have been obliged, when describing the temperaments, to avail themselves of many criteria, which are really the phenomena of disease. Chief among those to whom I allude stands one to whom I have myself been greatly indebted—my first teacher of medicine, the late Professor Laycock, of York and of Edinburgh. With a power of insight which amounted almost to genius, Dr. Laycock had applied his mind to the study of the physiognomical diagnosis of disease, and by long practice in observations in this direction, he was enabled sometimes to give opinions which astonished those who were accustomed to more ploddy methods of investigation. In a series of lectures delivered in 1861, and published in the following year in the *Medical Times and Gazette*, he embodied the results of his experience. He believed that his rules of diagnosis were to a large extent based upon peculiarities of temperament, and he naturally gave great attention to the correct classification of these so-called fundamental states. For myself, I cannot doubt that the knowledge which he found so useful was based not so much on the discrimination of temperaments as on the recognition of diathesis.

I could illustrate this statement by innumerable quotations from the lectures to which I have referred, in which features distinctly the result of bygone disease are mentioned, as if they formed part of the original organization. Our time will not permit that I should enter into any detail upon this point; but as Dr. Laycock's is, so far as I know, the last and certainly by far the best of all attempts to classify temperaments, I think it may be convenient that we should devote a few minutes to its consideration. He endeavored, as he tells us, to avoid the use of new terms, and to apply the old ones with definite meaning, as significant to predominant modes of vital activity. He recognized six divisions—first, persons nervously active from predominant innervation; secondly, those with predominant sanguification and activity of the vasular and muscular systems; thirdly, those in whom both innervation and muscular activity are predominant, and this exists with also predominant carbon deposit on excretions of the *fibrous or bilious temperament;* fourthly, when the muscular system is well developed, but neither sanguification nor innervation predominant, and there is a decided tendency to the deposit of fat—*the phlegmatic temperament;* fifthly, those who are defective as regards innervation, sanguification, and muscular and vascular activity—*the lympathic temperament;* and, sixthly, those in whom, with defective innervation, sanguification, and vascular activity, there is continued a tendency to carbon deposit. Here we have, with a little expansion, the original four temperaments—sanguine, nervous, bilious, and lympathic. Let us ask if they are real, and if the features by which they are to be recognized are such as are likely to be permanent in the individual, and unmodified by alterations in his state of health. In the first place, I would suggest that the melancholic temperament and the bilious temperament are, after all, only different degrees of the same thing, and that, as life advances, the one is very apt to pass into the other; and, further, that the distinguishing feature in both is one which concerns disease rather than temperament, and which might be more conveniently known as hepatic diathesis. It is the proneness to disordered function on the part of the liver, its ready and frequent occurrence, which for the most part stamps peculiarity on these so-called temperaments. Further, it is much to be doubted whether this facility of hepatic disturbance would be found in association exclusively, or even generally, with any particular cast of the features, or recognizable peculiarities in the general frame. Certainly it is not, by any means, the exclusive possession of dark complexioned persons, nor, perhaps, does it more amongst dark complexioned nations—the Italians, to wit—than amongst others. It is a matter of race, of family, and of climate. It may be diminished or aggravated by various conditions of life, and it is usually recognizable only after certain definite phenomena of disease have been already experienced. As regards its being worth while to distinguish any condition as the nervous temperament, because innervation is predominant—or, in other words, the cerebrous central spinal system is largely developed—much doubt may, I think, reasonably be felt. A high development of the nervous system is again a peculiarity of race and of family rather than of anything which we as medical men have to do. The conditions in which the nervous system is subject to disease are rather those of instability than of simple preponderance. The phlegmatic temperament gets its peculiarity from the tendency to fatten; but, as I have already observed, this tendency is shown in different periods of life, and is much modified by habits of diet and social surroundings. So of the lymphatic temperament, in which all functions are sluggish, and a general failure of what we may call tone is the conspicuous peculiarity. I would submit that this condition is not unfrequently induced by disease occuring during the lifetime of the individual, and not by anything denoted by anything in the general formation. Dr. Laycock's classification of the temperaments is also, in common with the other ones, open to the criticism that, inasmuch as it takes little or no account of the more conspicuous difference in complexion, it affords us but few facts by which to recognize them. When a man is florid and muscular, it is not difficult to say that he is of the sanguine temperament; but these conditions are, perhaps, indicative rather of good digestion and sound health than of intrinsic peculiarities. The appetite may fail, or the health give way, and the signs supposed to denote temperament may easily vanish. Would it not be more convenient to speak of a man as being simply, for the time being, florid and muscular, than by the use of such a term as "sanguine temperament" to imply permanency in qualities which may easily prove to be otherwise? If we cannot identify the sanguine temperament by other characters, probably it would. The peculiarities which denote family and race must be viewed with the utmost caution, as well by the physiognomist in reference to character as by the physician in respect to tendencies to disease. They are usually of no use, and they may easily mislead. It is only indirectly that they may become valuable—that is, when the special proclivities of the race or family in question are known beforehand. A thick upper lip, when it occurs in a mulatto, denotes descent only, and not scrofula. The peculiarities of the Hebrew features reveal only the race, and are of use to the physician only so far as he may be acquainted with any facts, as the special tendencies to disease of the race.

I have been speaking thus far on the subject of temperament considered as the aggregate of a man's physical personality, and have felt obliged to return the verdict that its study in this form is inconvenient for our purpose as surgeons. It will I think, however, be well to say a few additional words respecting some of the individual peculiarities which have been held to make up temperament.

We will begin with the subject of complexion. The color of the hair, skin, and eyes may be easily observed, and although the English population, in a majority of cases, is a mixed one, yet abundant opportunities occur of taking note of very definite types. Observations are yet wanting which would justify us in believing that any special tendencies to disease are implied by differences in the pigmentation of the hair and skin. It is, however, a subject of much interest for further research, and thinking that it might possibly be useful to others, I have placed before you a brief list of the more definite complexions which I prepared for my own guidance many years ago when investigating the subject of scrofula. In endeavoring to determine whether any given disease occurs in special connection with any one complexion, we are met at once with the difficulty that we do not know what the relative proportions of the several complexions are in the English population. Nor would it be sufficiently accurate for the purpose of any local observer to know the proportions of fair, rufous, dark, etc., in the British population generally, since these probably vary very considerably in different districts, and even in different towns. I cannot but think that careful statistics upon this head—collected in small towns and villages where it might be practicable to count the whole, and made, too, by trained observers—might prove of considerable value in more than one direction. It is in external diseases chiefly, such as lupus, psoriasis, and the like, on which the diagnosis is easy that we should find the best opportunities of testing prevalence in relation to complexion. At one time I had formed a strong opinion that lupus, to take a marked example, was met with much more frequently in those of dark complexions. Persons of dark complexions. Persons of dark brown hair, brown eyes, and a bluish sclerotic through which the pigment of the choroid is somewhat seen. I have collected a good deal of statistical evidence on this point, but it remains useless so long as we are ignorant of the relative proportions of the complexions amongst those from whom the cases came. It is probably the fact that both professional and lay observations concur in supporting this creed, and there are differences—mental, moral and physical—between the fair and the dark; yet it would be exceedingly difficult to say anything definite as to what these differences are. I was myself taught by a careful and practical observer, the late Mr. Wormald, that all persons of the dark complexion would bear mercurial treatment well, and would require larger doses than those who are fair. I have been accustomed ever since to act on this belief, and I think it is certainly well founded, although there are many exceptions to it. I have even gone farther than my teacher and come to believe that a great many persons of the dark complexion not only bear mercury well but enjoy better health whilst taking it, and are not unfrequently much and permanently benefited by a long course. It is but fair that I should admit, however, and one of the most remarkable examples of tolerance of this drug which I have ever met with, occurred in a patient of very fair complexion. Further, I have acquired, possibly on insufficient data, a sort of practical belief to the effect that dark-complexioned persons do not bear direct tonics well, that the need of purgatives is greater in them, and that they are often not helped by sea-air. Beyond these items of uncertain creed I cannot go, and even granting that they are sound, it remains still an open question whether the mere difference in pigmentation is, *per se*, their explanation. It may be after all that this difference in complexion is, as we see it in English society, mainly useful as a clue to descent, to family, and remotely to race. Many facts concur to imply this. When an Albino chances to occur in a dark family, as is usual, he does not, I believe, show any special liabilities to disease, or differ in any way from his brothers and sisters, excepting in the local inconvenience as regards eyes and skin. White horses, white cattle, white rabbits, and white poultry are usually not possessed of any other correlative peculiarities. There is a prejudice, and probably it is nothing better, that they are slightly more delicate than colored animals. The breed of pigs in the south of England is usually black, whilst in the northern counties white-skinned pigs are universally preferred. Such a fact is conclusive in proof that mere difference in pigmentation of skin makes no material difference as to health or feeding capabilities. In the different breeds of sheep we have frequent illustrations of the power of race and family in giving peculiarity as regards the tolerance of climate and proclivity to some diseases. But the occurrence of a pigmental animal in any given breed does not, as far as I am aware, entail any difference as regards health. The only observations with which I am acquainted which contravenes this statement is one quoted by Mr. Darwin, to the effect that black sheep can eat with impunity a certain species of *Hypericum*, which is poisonous to white ones. This observation is so peculiar and so isolated that it must be held to require further confirmation. Possibly, the strongest instance in illustration of this importance of difference in general pigmentation occurs in the case of the common ferret. These animals breed albinos very readily, and probably three-fourths of those at present in use in England have red eyes and white hair, the remaining quarter being a dark color. So far as I know, the one is just as hardy as the other, and they are fed and treated in every way alike. Thus, then, I think that we may believe that in the English climate the abundance or comparative absence of pigment in the tissue does not, *per se*, make any appreciable difference in the vital endowments of the individual. I am far from wishing to imply in saying this, that the study of the complexions, as regards pigment, is useless for clinical purposes. Its uses have, however, for the most part, yet to be discovered, and it is desirable to note, in passing, that although we name the complexions chiefly in reference to pigmentation, something more than simply abundance or deficiency is to be recognized in them. Thus, the rufous complexion is due not merely to deficiency, but to peculiarity in quality, and is probably usually the result of the mixture of dissimilars. It is very likely that a careful observation of a larger number of rufous persons would confirm the popular belief that they do display peculiarities not only in temper and general character, but to a certain extent as regards proclivity to disease. Again, the occurrence of great difference in color between the eyes and the hair, the eyes being much lighter than the hair, as for instance, black hair with blue eyes is probably an indication of delicacy. This, at any rate, is the general belief.

Next in importance to the differences in pigmentation we have certain other conditions which are usually included in what is meant by complexion, such as the thickness or thinness of skin, its transparency, the development of its glandular system, and the state of its appendages. I dare not venture to say more respecting most of these than that they are well worthy of further observation. We have exceedingly little definite information regarding the clinical value of any of them. We know that thick, coarse skins are more liable to be attacked by acne than are those which are thinner; or, rather, perhaps I ought to say that acne assumes different forms in relation to the original endowments of the skin which it attacks. In those of coarse skins commedones, papules, and pustules easily form, or we may even have a condition of tuberous hypertrophy, whilst in those of thin, transparent skins, if the causes of acne come into operation, an erythematous condition will be produced, and the term rosæ become applicable. We believe, I scarcely dare say that we know, that in children in whom the hairs are thick and coarse the ringworm fungus finds an uncongenial home. It might be possible to mention a few other detached observations as to certain peculiarities in the skin and its appendages, not themselves due to disease, which may guide us in estimating the future liabilities of the individual. As a matter of general observation it may be asserted that all marked deviations from the normal type should be held in some degree of suspicion. Thus, if the hair is markedly coarse, or unusually fine, if the skin be very thick and very transparent, we are perhaps justified in suspecting that there may be in other tissues similar departures from the average constitution, some of which may prove inconsistent with the preservation of perfect health. For the present, however, it is speculation only. Of accurate observations we have none. The teeth and the nails may be suitably mentioned together as structures in which we very frequently observe with great interest and profit the indelible consequences of past disease. These, however, belong to the subject of diathesis, and do not concern us now. As regards peculiarities of these structures occurring quite independently of previous disease, our knowledge is much in the same state as on the subjects to which I have just referred. Peculiarities in the form of the teeth are often matters of family descent, and teach us nothing as regards their possessor's liabilities. It is probable, however, that all peculiarities as regards color and texture of teeth are of value in proportion, as they depart from the normal standard as indicative of defective tissue formation in general. Dr. Laycock, in the interesting lectures to which I have alluded, has examined at much length the various conditions of the ear as indicative of temperament and diathesis. He believed that the form of the ear was of great value as a clue to the original development of the brain, and that the state of the nutrition, blood supply, etc., might help us to estimate corresponding conditions within the cranium. His conclusions in the main are probably correct, but we may doubt whether he did not push matters too far in assigning a special state of ear to such conditions as general paralysis, and in considering in reference to this disease that the congenital adhesion of the lobule to the cheek had some degree of significance. His observations had led him greatly to prefer ears which had free lobules, and these, too, of considerable size, which had all their different parts well marked, and which were moderately fleshy, not thin and cartilaginous. As regards the matter of the lobule, it may be plausibly suggested that its adhesion or otherwise indicate only family descent, and implies nothing as to temperament, and the same to some extent is probably true as regards the state of the helix and other parts. Making allowance, however, for sources of fallacy in these directions, I think there can be no doubt that the different states of the ear, as well congenital as acquired, have been unduly neglected both by the physiognomist and the physician. The ear affords excellent facilities for observation as to the general state of nutrition and circulation, and the degree of perfection in its form is a tolerably safe guide as to the descent of the individual from a sound and well-bred stock. That it furnishes a clue to the state of circulation in the brain better than does the color of the cheeks and nose, or anything like as good as that afforded by the brilliancy of the eyes, may be doubted, and before we make references on this point, we must remember that it, as well as the nose, is remarkably exposed to the influence of external temperature.

I have said so much in disparagement as well of the general, as of the special, signs which have been held to indicate temperament, that I fear it may be suspected that I almost doubt the reality of temperament in itself. If I have given that impression let me hasten at once to remove it. There can be no question whatever as to the reality of the difference between man and man, nor any doubt as to the importance of the recognition of those differences by the medical practitioner. By far the commonest error of the prescriber, and one which most interferes with his success, is the easygoing habit of regarding all persons as alike, and recognizing differences only in their diseases; or, to put it in other language, of ignoring the predisposing causes, and taking account only of immediate ones. The farmer who would succeed in his pursuits must not content himself with making sure that he has sown good seed, and according to the most approved methods. He must go farther back to take knowledge of the nature of the soil with which he has to deal, of the crops which it has previously borne, and of the manures which have been used. It is much the same with us in the diagnosis and treatment of disease. In addition to the primary or exciting cause, which is of paramount importance, we have various others which may perhaps be conveniently classed together under the term contributory, since they contribute to control and modify final results. Amongst these, temperament the original vital endowment of the individual is unquestionably a real force, and one which we would most gladly recognize and estimate if we could. The scepticism which I have been expressing applies not to the reality of the thing, but to an ability to discriminate it. I shall have to speak in my next lecture on idiosyncrasy, and one of the subjects which I think will come before us in the clearest possible light, is that we possess no means whatever of recognizing by external configuration the subjects of these remarkable deviations from the usual standard. Who shall discover beforehand the subject of hay asthma or the man in whom the iodide of potassium will act like a poison? When I come to the subject of diathesis we shall be on wholly different and far firmer grounds. Defining diathesis as a permanent morbid proclivity we shall be able to show that in a great many instances, either by the aspect of the individual, or the history of the case, a clear and definite opinion can be arrived at. The differences which have been held to constitute temperament have had their remote origin in two sources of influence; first. the hereditary transmission of the peculiarities incident to race and family, which, for the most part, entail no morbid proclivity whatever; and secondly, they are due to some one or more of the various common causes of disease acting, perhaps, through many generations. Thus, I cannot but think that what has been called temperament divides itself naturally into these two parts, *race* and *diathesis*. There is therefore but little advantage in the word, more especially when we have regard to the inextricable complexity of the subject. As regards diathesis, the conditions are very different. We can study the results of different causes in detail and with much precision; we can express our knowledge in clear terms, and recognizing the fact that we frequently encounter several of these causes in activity together, we can investigate with interest the mixed forms of diathesis which result. We do not embarass ourselves by admitting extraneous complications based on the peculiarities of race. Making due allowance for acclimatization, we assert that within certain limits—not wholly unimportant, but relatively very much so—the various causes of disease act in the same way on individuals of very different races. It is in this direction, if I am not mistaken, that the work of the future will be done. We shall see that the connection between morbid influences and the external configuration of the body is less close than has been assumed, and that the best plan is to study carefully the scope of power of each kind of such influence under the varied circumstances of its action. — *Medical Press.*

OBSTETRICS.

NOTE ON UTERINE HÆMOSTATICS.—As a small contribution to the practical portion of the subject of mechanical kinds, which we know by the name of plugs or tents. In doing so I must be understood to refer only to those cases where the cavity of the uterus is not sufficiently large to contain blood in quantity, the loss of which from the circulation is likely to produce anything of serious detriment.

If we go back to former practice and to text-books, we find it recommended that, in case of threatened abortion with much hemorrhage, a vaginal plug should be used.

The vaginal plugs recommended are the tampon, cotton or wool, silk or cambric handkerchief, rags, or sponges passed in till the vagina is filled up. An India-rubber ball also has been suggested, covered with felt or such like material. Now, even with the best management, there is much of distress to the patient in the use of the vaginal plug; and with regard to its hæmostatic effect very much of uncertainty, and generally partial failure; and in the hands of the unskillful and careless there is positively no restraint of bleeding worth the mention. If at any time any good result be produced, it is rather by the reflex irritation that it causes, whereby the uterus expels its contents. It is not so very rare an occurrence that one finds, on removal of the plug, the ovum on the uppermost part of it.

But besides its palpable inefficiency, a vaginal plug, being of a porous texture, absorbs a large quantity of blood and thus conceals it from our sight; it also favors decomposition, and this, as is well known, occurs within a few hours; and thus we have a new element of danger.

Again in many cases, when called to such a case, we have no speculum at hand; and, although we may extemporize one out of card-board, book-covers, or such like material, yet before we have thoroughly and firmly filled the vagina, we must have given the patient considerable pain and distress, besides having occasion to put such pressure on the urethra as may necessitate subsequent catheterism. For these reasons, namely, the imperfection of action, pain in introduction, and danger if left in long—in other words, its general crudity, it seems to me that as a general rule the vaginal plug should, in the cases I have supposed, be discarded.

And as a substitute I would urge the employment of the cervical plug as being more precise in action, as well as being capable, if we use a dilating kind, of expanding the canal for the purpose of exploration, or for the expulsion or removal of its contents.

If, then, in any case of uterine hemorrhage, where we have the conditions above alluded to, we desire, besides immediately checking the bleeding, to dilate, we can use the compressed sponge-tent; the best form of which I have found to be those made, after Sir James Simpson's plan, by Duncan, Flockhart and Co., of Edinburgh. These can be introduced by a long pair of forceps, and retained *in situ* by placing a piece of sponge, with tape attached, in the upper vagina. Of course, even these materials retain some secretions, etc., and tend to facilitate decomposition; but their removal and cleansing can be effected much more readily than the vaginal plug, because it requires but a small portion. The sea-tangle tent, by reason of its slipperiness, is unreliable as a plug in hemorrhage. If we desire, however, only to plug the cervix, we can very easily extemporize a plug from materials to be found in every house.

For instance; take a stick (say a flower stick) about a foot long, and taper it at one end to about the size of an uterine sound, or rather larger; wind round this end, for about three inches down, strips of cambric rag, lint, or sponge to the required thickness, judging from the size of the os. Strips of sponges can be readily obtained from cup-shaped sponges of compact texture, and they can be tied on by thread, layer after layer, till the requisite conical form is obtained. The strips of the other materials can be laid on similarly. After the covered end has been well greased it is passed into the canal, and the stick retained *in situ*, after the manner in which we tie in a catheter; an elastic tape, if obtainable is to be preferred.

A catheter or bougie, or the end of the long injection-tube, can be treated in the same way. If we require great precision of application, then it is best that the hand should hold the external end till the hemorrhage has ceased. If the catheter and stilet be used, then I have found it convenient to bend the external portion backwards, between the buttocks, tying the tape round the ring of the stilet—the ends of the tape being carried, as usual, to back and front of the waist-band.

These more homely adaptations I have recommended, rather than the especially made kinds, because they are often wanted at times when we cannot send home for a more showy sort. In any case, a cervical plug, expanding or not, is more precise, less crude and painful in application, than the vaginal, and, in my experience, nearly always successful. In all cases of abortion, where a plug is necessary, I would lay it down as a rule, that the expanding tent should be employed. In cases of flexion with abortion (and it is this complication which so frequently increases the hemorrhage) it will be found that the covered stick or stemmed plug, above described, is very useful; for, if the fundus be elevated during the introduction, the uterine cavity is straightened, and evacuation of the contents thereby facilitated.—By J. Braxton Hicks, M. D., F. R. S., in *British Medical Journal.*

CHANGES OF UTERINE MUSCULAR TISSUE AFTER PARTURITION.—Prof. Wojtschechoffsky has examined microscopically ten uteri, removed from women who died within thirty-five days post partum. He offers the following as the result of his investigations.

1. The fatty degeneration of the uterine muscular tissue, upon which the diminution in size of the uterus depends, begins immediately after parturition and covers a period of more than five weeks.
2. The degeneration attacks alike all parts of the organ (fundus, corpus and collum).
3. It could not be ascertained, whether the process began at an earlier period in the outer or inner muscular layer of the uterus.
4. The interstitial tissue of the uterus does not take an active part in the process of involution.
5. The process of obliteration of the blood vessels covers a greater period, than the entire involution.
6. The appearance of free pigment in the uterus is not stationary.—*Deutsche Med. Zeit.*

G. A. F.

FISSURED NIPPLES.—Monti recommends that the nipples should be anointed with a (freshly-made) solution of gutta-percha in chloroform, just enough of the latter being added to make the solution fluid. As it dries it forms a protecting pellicle, which does not come off even after suckling.—*Le Practicien.*

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Cincinnati, July 15th, 1882.

Miscellany.

EHRLICH'S METHOD OF DETECTING TUBERCULAR BACCILLI IN THE SPUTA.—Among the many interesting specimens of micro-organisms shown to a large assemblage at the rooms of the Royal Medical and Chirurgical Society on Tuesday evening last, the 23d instant, there were two of special interest, showing the bacilli of the tubercle. They had been prepared by Dr. Ehrlich, assistant in the medical clinique, Berlin, according to a new method which promises by the excellence of its results to supercede that of Koch. One was a specimen of bovine tuberculosis, the giant-cells of which were the center of interest; and the other was a preparation of phthisical sputum. It is chiefly on sputum that Dr. Ehrlich has made his observations, but his method is available also for sections. We take the following interesting practical details from the reports (*Deutsche Medicinische Wochenschrift*, May 6) of a communication made by him on May 1 to the Medical Association, Berlin (*Verein für innere Medicin.*) He extracts with a pair of needles, a small particle of sputum, and passes it between two cover-glasses. He then separates the cover-glasses, and gets a thin layer of sputum on each. The cover glasses are allowed to dry in the air, and, in order to fix the albumen, they are either kept for an hour at a temperature of 100° centigrade to 110° centigrade, or they are passed two or three times through the flame of a Bunsen's burner. The coloring fluid is then prepared. Water is shaken up with an excess of anilin oil, and filtered through moistened filter-paper. To the clear fluid so obtained an alcoholic solution of methyl-violet or of fuchsin is added, drop by drop, until the fluid becomes opalescent. The cover-glasses, coated with the dried sputum, are then set swimming in this opalescent fluid, and in fifteen or thirty minutes they will have colored an intense blue or red according as the violet or fuchsin had been used. Dr. Ehrlich now departs further from Koch's procedure; he does not color the substance in general with vesuvin, but he decolorises it with strong acids, the bacilli retaining the blue color. One volume of officinal nitric acid is mixed with two parts of water, and the blue stained preparations are put into this strong acid. In the course of a few seconds the color fades, a yellowish cloud passes across the preparation, and leaves it white. Every thing in the preparation of sputum is now decolorized, except the bacilli, which are intensely blue. But the technical difficulties of seeing them are still considerable, and it is further desirable to color the ground substance yellow in the case of a methyl-violet preparation, and blue in case of a fuchsin preparation. In the specimen of phthisical sputum prepared by Dr. Ehrlich as above and exhibited on Tuesday last, the bacilli were very numerous, very uniform in size and form, and very distinct, the magnifying power being about nine hundred diameters and the illumination strong. Dr. Ehrlich has examined the sputa from twenty-six pronounced cases of phthisis, and he has found bacilli in them all and most abundantly in acute cases. In most cases the baccilli are found in the very first specimen made, and in the very first field of the microscope. The entire process of drying and coloring may be done in less than an hour. The bacilli were not found in sputa other than phthisical. A friend sent him a specimen purporting to be phthisical sputum, in which Dr. Ehrlich could find no bacilli; and, on inquiry, it proved to have come from a case of empyema with perforation of the lung.—*Medical Times and Gazette.*

Vaseline.—Dr. Langlebert exhibited at the Paris Therapeutical Society some emulsions of vaseline which he had prepared by means of gum tragacanth, which held in suspension various medicinal principles, such as sulphate of zinc or copper, etc., and which may be employed for urethral or other injections. The active substance of the injection becomes, so to say, more adherent to the diseased parts, with which it thus remains longer in contact than in the case of ordinary injections. These samples had been prepared for more than three weeks, and in only one of them was there a commencing separation of the vaseline. Moreover, this fatty body has the advantage over others of not becoming rancid. In answer to an observation by Dr. Crequy, that ointments prepared with vaseline are less fitted for the promotion of medicinal absorption than than those made with lard, Dr. Vigier observed that, as the result of a series of researches he had made on this point, he had found that lard is the best fatty body when medicinal absorption is desired, vaseline coming next and glycerine last. This last, therefore, is a bad vehicle when cutaneous absorption is in view, but an excellent one when we wish to avoid this; so that we may by its aid avail ourselves of the parasiticide action of corrosive sublimate without fearing the production of mercurial poisoning.—*Gaz. Hebdom.*

Force Neurique. — Dr. Barity, during his treatment of patients suffering with chorea, the author claims to have discovered a new force—a nerve force—(force neurique). It has been his aim to study it in all its varieties. We will spare the reader with a recital of the wonderful qualties which the author claims to have found, and we even consider it superfluous to present all his conclusions. The reader may form his own opinion from a few abstracts of his phantastic essay: "In man (probably also in animals) there is manifested a peculiar nerve force (force neurique, neuricite.) It radiates outward through the eyes, fingers and breath, and is distributed in straight beams through the atmosphere; it can be reflected and refracted. It can also penetrate lifeless bodies; certain colors will allow its transmission (dianeuriques) others not (aneuriques.) The rays of nerve force may penetrate to a distance of from a few centimeters to several meters. It travels through the air with a velocity of two meters per second. *Atque haec hactenus.*"—*Deutsche Med. Zeit.* G. A. F.

A Physical Explanation of Diapedesis.—Dr. D. J. Hamilton has read before the Edinburgh Royal Society a paper on the circulation of the blood-corpuscles, illustrated by physical experiments. His views contribute greatly to the formation of a sufficient physical theory of the migration or diapedesis of the blood-cells from the vessels. It is known that the white cells are lighter than the plasma, while the red cells have nearly the same density. The white cells thus flow along the upper wall of the vessel, where they are subject to friction, and are carried slowly along by the slower peripheral current. The red cells move along the axis, exempt from contact with the walls and from friction, and are hurried on by swifter axial current. Alteration in the density of the plasma might modify or invert this relation, so essential to the circulation; mere hydræmia without any other disorder might thus lead to obstructive vascular disturbance of a serious kind. The so-called passive congestions and inflammations of albuminuric dropsy may have this cause; loss of albumen altering the general density of the plasma. Experiments were shown with a curved tube to illustrate how, when the blood current is slowed even to statis, the white cells gather at the periphery of the vessel. A light sphere in a low stream cannot pass the first bend but lingers at the upper surface. A sphere of the same density as the liquid passes on quite easily. With a quicker stream both spheres are carried on. Thus in a vessel, when as in inflammation the current slows, a filtering action is exerted by the tube upon the white cells, the red cells being carried on. Another experiment was shown to illustrate the way in which the white cells thus gathered in the surface layer of the plasma are driven through the vessel wall. A tube was taken, in which a portion six inches long and embracing half the circumference had been replaced by a membrane with pin-point apertures. Pieces of thin gelatine half an inch square were introduced and circulated with the water in the tube. So long as the distal end of the tube was open, the water did not exude from the apertures, much less the pieces of gelatine. When the end was obstructed, the current slowed and the pressure raised, fine jets of water issued from the pin-holes, the pieces of gelatine gathered there, and were extruded in great numbers, though they were perhaps thirty to sixty times as large as the apertures. First appeared a bud-like process outside; this enlarged, and finally the whole mass pushed through, just as is a leucocyte in diapedesis. The author's conclusions are:—1. The leucocytes in inflammation are driven through the natural apertures in the vessel-wall by the diverted blood-pressure. 2. They are extruded in greater numbers than are the red cells, because in the slowing of the stream they have gathered at the periphery and are applied as it were over the apertures in the in vessel wall: the red cells are still circulating freely in the axis of the vessel. If the circulation be *suddenly* stopped as by ligature of a vein, the red cells pass through the water in greater numbers than the white; there has been no time to form a peripheral layer of white cells. 3. The amœboid movements of the white cells may help in their extrusion, they are not the primary factor. Any soft pliable bodies would be similarly extruded. In lipæmia oil-globules pass through the vessel-walls when there is obstruction, and from abscess-like collections of oil outside and around the vessels.—*Proceedings R. S. Edin.—The Practitioner.*

SMALL DOSES FREQUENTLY REPEATED.—It is becoming a very general practice to administer certain active medicines in doses so small as at first sight would appear entirely inert and even approaching the minute doses of homeopathy. For example, the tenth of a drop of tinct. aconite at a dose is given to a child a year old in febrile disorders. But there is one feature in this mode of dosing which gives it a character not noticed at first view, viz., the dose is repeated every fifteen or twenty minutes. Now one-tenth of a drop every twenty minutes amounts to seventy-two tenths in twenty-four hours, or a little over seven drops. To give this quantity at a single dose to a child of one year would be malpractice, and dangerous malpractice too. The cumulative action of these minute doses is an important consideration in therapeutics. The twentieth of a grain of morphia would be a trifling dose for an adult. Yet if it be repeated hourly, it would amount to nearly two and a half grains in twenty-four hours; a dangerous quantity.—*Pacific Medical and Surgical Journal.*

PROFESTOR HUXLEY ON MEDICAL EDUCASION FOR WOMEN.—On Wednesday last Professor Huxley distributed the prizes at the School of Medicine for Women. In the course of his address he said it was now a good many years ago since he ventured to make public his opinion on that subject. He repeated it now, he was not quite sure that it would be considered orthodox, but this he would say, that age had not altered his opinions. Whether in the future women might take the lead in science or not, for his part he had never been able to see why women should not do all they can to make themselves useful members of the community, why they should not take up any branch of science, and do the best they can in any career open to them. He could not understand why there should not be free trade in this matter. For the last few years he had been a member of a Royal Commission on the subject, and it might interest them if he just gave them the result as far as it affected them. He must, however, be guarded in what he said, as the result had not yet been laid before her majesty, but he might go so far as to say that the Commission were extremely impressed with the importance of medical education for women. They were also struck with the very moderate statement made by Mrs. Garrett Anderson, to whom all of them were much indebted, and therefore, he might say that, whether there was to be one portal or many to the entrance to the medical profession, there would be no barriers against women. In the Dean's report of the school it was stated that during the five year's existence of the institution exactly 100 students had been admitted, of whom thirty-nine were still engaged in study, and eighteen had studied medicine for the purpose of applying it in mission work.—*Med. Press.*

LEMONS, THE ELIXIR OF LIFE.—Dr. William Schmole, Professor of Pathology in Bonn, has (*Medical Record*) written a treatise on the "Wissenschaftliche Künste zur Verlängerung und Verschönerung des Menschlichen Lebens," which, being translated, is, "A scientific method of prolonging and making comfortable human life." He claims that this long and eagerly sought for end may be secured by eating lemons. He bases his method upon the hypothesis that the condition known as old age is produced by a misproportion between the organic framework and inorganic constituents of the human body. In order to prevent this condition and preserve the elasticity of youth, it is only necessary to introduce some substance which will dissolve the excess of mineral matter and allow of its absorption and excretion. Such substances are the inorganic acids, and chief among these, citric acid, the next in value being lactic acid. Citric acid is the best taken in the form of lemon juice, and it is recommended that a person swallow the juice of from two to eight lemons daily, year in and year out! Such a practice also secures one against the attacks of rheumatism, which afflict old age. It also prevents the degeneration of the arteries and the calcifications of the vascular system. Our speculative author also avers that many of the fevers and inflammatory diseases of old age are due to reflex and sympathetic processes. He states that a treatment which benumbs these reflexes will tend to ward of such complications. For this purpose he advises small and frequently repeated doses of acetate of morphia. The number of cases illustrating the effects of this scientific elixir vitæ are very small. One person who fed himself on lemons as directed died at the age of 110, and then his death was an unnatural one.—*Mich. Med. News.*

Dr. John L. Atlee.—The venerable and celebrated Pennsylvania physician, who has just been honored by a unanimous election as President of the American Medical Association, is a *man* among men, a true scholar, gentleman physician.

Dr. John Light Atlee was born in Lancaster, Pa., November 2d, 1799. His father was Col. William Pitt Atlee, and his grandfather the Hon. William Augustus Atlee. He studied medicine with Samuel Humes, M.D., commencing in 1815, and graduated from the University of Pennsylvania in April, 1820. He then began practice in Lancaster, where he yet remains. He was active in the organization of the Lancaster City and County Medical Societies, and was twice elected president. He was one of the originators of the State Medical Society, in 1848; in 1857 he was elected president, and was elected one of the vice-presidents of the American Medical Association in 1868. At the union of Franklin and Marshall Colleges he became Professor of Anatomy and Physiology, and so continued until 1869. He has always taken a lively interest in the cause of education, and having been appointed a school director in 1822, he was for more than forty years an active and useful member of the board. He is a Trustee of Franklin and Marshall College, as well as of the Bishop Bowman Church Home, of Lancaster. He has been a contributor to the to the *American Journal of the Medical Sciences*, as well as to many others. He revived the operation of ovariotomy in 1843, and was the first to successfully remove both ovaries at one operation. He was married, March 12th, 1822, to Sarah H., eldest daughter of the late Hon. Walter Franklin, President Judge of the Courts of Lancaster and York Counties. He has two sons physicians, one of them the well-known ovariotomist, Dr. Walter F. Atlee, of Philadelphia. Dr. Atlee's exceptional character, long experience and well-known integrity eminently fit him for the position to which he has been elected.

Spiritism—A Rapping Medium Discovered.—A medical friend residing in the interior, had an experience which he related to us in substance as follows: "I was lying in bed and not inclined to sleep, when it occured to me to try an experiment on spiritism. Accordingly I began by invoking the presence of some disembodied spirit. 'Are there any spirits present?' I inquired. 'If so, they will please announce themselves by rapping.' After repeating this request several times, I was startled by several sharp raps which were repeated from time to time. There could be no mistake. The raps were very peculiar, and I thought I had never before heard precisely similar sounds. At length I rose from bed, determined to ascertain their source. I traced them to the door, when they appeared to be outside. The door fronted on the porch, and on opening it, lo! the rapping medium stood revealed in the form of a goat. I returned to bed thoroughly convinced.—*Pacific Medical and Surgical Journal.*

Singular Legacy to the French Government.—M. Giffard, the well-known Parisian inventor of balloons, who died some time ago, has left a legacy to the French Government under the most singular conditions. He desires that it be devoted to the establishment of *suicidaria* or national institutions in which persons suffering from painful and incurable diseases may be allowed, by the use of chloroform and other such agents, to shorten their own existence, acting under the direction of medical experts, and with the consent of their friends. M. Giffard secured a euthanasia for himself by a special apparatus he invented for the inhalation of chloroform. M. Renaud has joined the movement for the promotion of painless suicide in France, his only stipulation being that no man shall, by law, be entitled to take his own life, until he has obtained the consent of his friends in what is known as the *conseil de famille.*

The *Medical Bulletin* tells of a Philadelphia young lady who thus questioned the diagnosis of an affection of the middle ear made by a physician in the case of one of her lady friends: "Don't you believe it. Who ever heard of such a thing as the middle ear? Fiddlesticks! There is one ear on each side of the head and no more." The criticism carries with it a suspicion that the ears of the young ladies of Philadelphia are sufficiently long to counterbalance any deficiency in their number.—*Mich. Med. News.*

Bibliography.

A Treatise on the Science and Practice of Medicine.[1]

The first volume of this work only has as yet appeared, and includes first, a chapter on general pathology and therapeutics, followed by what the author designates as particular general diseases, which includes the acute infectious diseases and others, which have no distinctive local point of expression, and finally the local diseases. The first volume includes of these local diseases, diseases of the alimentary canal, pancreas, spleen and liver.

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[1] By Alonzo B. Palmer, M.D., L.L.D., Prof. of Pathology and Practice of Medicine and Clinical Medicine in the University of Michigan, etc., New York: G. P. Putnam's Sons. For sale by Robt. Clarke & Co., Cincinnati. Price $5.00.

In these days of encyclopœdias of medicine and exhaustive monographs of various diseases, any man who endeavors to write a treatise on the practice of medicine in two or three volumes has no easy task before him. Many things must be omitted for want of space, and what is said must be put in as few words as possible. Moreover, we would expect to find some one branch of the subject more exhaustively treated of than the others. Our author condenses well, and whatever he writes is well worth reading. When analysis of any chapter is made, it is not difficult to see that the therapeutics of the various diseases, especially of those which in the nature of things had been most often seen by Dr. Palmer, show most originality. We are told in the preface that "the description of anatomical and pathological changes partakes of the character of a compilation from the more recent and reliable sources." It can be said in general that the compilation is good and carefully made. In the advice how best to treat the various diseases we meet more positive assertions — assertions evidently borne out by the author's experience, and in many cases a dogmatic way of putting views which savors rather of the lecture room; but if that be a fault it can readily be excused. The carelessness displayed in writing the prescriptions cannot so readily be passed over. A teacher of thirty years experience, who has acquired the title of L.L.D., in addition to M.D., ought certainly to write correct prescriptions and not mix Latin and English indiscriminately, as is the case in the work before us.

Take, for instance, the following found under the head of treatment for typhoid fever:

℞.	Dilute sulph. acid,	♏ xxx.	
	Tinct. opi.,	♏ x.	
	Decoction of bark,	℥ss.	M.

Or,

℞.	Acetate of lead,	grs. x.	
	Acetic acid,	♏ x	
	Acetate morphia,	gr. ss.	
	Aqua pura,	℥iv.	M.

Take it for all in all the work is a safe, practical treatise on the subject, and will undoubtedly be popular. The work of the publisher has been well done, the type being clear and the binding good.

THE VEST-POCKET ANATOMIST (founded by Gray).[2]

This the work of an American author, which has a marvelous sale. It can be said to be Gray condensed, and transposed into eighty-two small pages, where the type is clear and by no means small. The present edition is the eleventh, and an improvement over the preceding, in that additional sections have been inserted. These are backed up by standard authors, and are entitled: "Triangles and Spaces," "Gynæcological," and "Points Worth Remembering."

Eleven editions have been printed, four of which were sold in London, England. A copy of the latter edition was put into plates, by an American publishing house, which made the mistake of overlooking home productions. Its author, Dr. Leonard, doubtless had a realizing sense of the saying, that "a prophet is not without house, save in his own country," but nevertheless must have felt himself highly complimented.

The work is deserving of great popularity, because of its intrinsic value, and because its nominal price brings it within the reach of every one. We would advise every medical college to adopt it, as the only text book and guide in the dissecting room. Let it exclude all others. Its sole use will result in students acquiring more solid anatomical knowledge than is gained by the present one of Gray and other text books.

Nothing but the subject itself will be left for them to scrutinize and contemplate, and no time will be wasted in endeavoring to make the cadaver conform to the text-book plates, as is so frequently done by dissectors.

With Gray and other standard authors as its basis, the work is a correct guide-board, which directs the student unerringly in the right way. It will prove a lamp to his feet in his dissecting travels, and keep in the straight and narrow road of close observation of his dissections. This alone will lead to success in practical anatomy.

The work is of such a character, that we cordially endorse it, and recommend its adoption by all who are engaged in the study of practical anatomy. J.LaC.

LECTURES ON DISEASES OF CHILDREN, A HAND-BOOK FOR PHYSICIANS AND STUDENTS.[3]

Professor Henoch's reputation, among specialists, is so well established that, a work coming from him, would receive considerable attention. The book before us well merits this—it is worthy of the author's name. It is a careful and concise resumé of all that has been done in pædiatrics. On the whole, it can be stated that it is the best book, on this subject, that has been published in the English language. For the translation we cannot say very much that is favorable. Whoever the translator may be, his name is withheld from the public; he must be considered a great genius in condensation. Indeed, he condenses so very much at times that it is only with difficulty that the original text, in the German, is recognized. Furthermore, the translator has taken liberties that are absolutely inexcusable; whole passages are omitted, and frequently cases omitted. But, notwithstanding all these faults, the work still preserves, even in this garbled form, its excellency.

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[2] By C. Henri Leonard, A.M., M.D.; Eleventh Revised Edition; Detroit, Mich., 1882.

[3] By Dr. Edward Henoch, Director of the Clinic and Polyclinic for Diseases of Children in the Rozol Charitè, and Professor in the University of Berlin. New York: Wm. Wood & Co., 1882.

Original Communications.

THE FIRST QUARTERLY REPORT OF THE EYE AND EAR DISPENSARY OF STARLING MEDICAL COLLEGE, COLUMBUS, O., JULY 1, 1882.

By Henry G. Cornwell, M.D., Attending Surgeon.

The following report of the first quarter's work of this dispensary includes a number of interesting cases, brief notes of which are given:

DISEASES OF THE EYE.

CONJUNCTIVA.

Conjunctivitis, catarrhal	21
" granular	8
" lachrymal	4
" purulent	2
Burn from explosion of gunpowder	1
	Total, —36

The greater number of the cases of catarrhal conjunctivitis under treatment were more properly, perhaps, cases of hyperæmia of the conjunctiva, exhibiting itself in congestion and dryness of the palpebral conjunctiva of the upper lid, attended with smarting and burning feeling in the eyes. In general, weak astringent preparations were used, together with soothing baths. Cases of conjunctival hyperæmia dependant on uncorrected errors in the refraction of the eye were recorded under the head of "Errors of Refraction." Four of the cases of "granular lids" had also pannus. In the treatment of these a canthotomy was performed with good effect on the corneal disease. The cases of lachrymal conjunctivitis (Galezowski), dependant on obstructions of the lachrymal canaliculi (the retained tears exciting a conjunctivitis) were treated by slitting up these canals together with weak astringent remedies.

CORNEA AND SCLERA.

Keratitis, interstitial	2
Ulcer of cornea	2
Opacity of cornea	5
Leucoma adherens	3
Corneal staphyloma	3
Foreign bodies on cornea	2
Pannus	3
Episcleritis	1
Abscess of cornea	1
	Total, —22

One case of interstitial keratitis was observed in a girl, aged ten years. The second in a woman, aged twenty-five years, sent to me from Youngstown, in this State. This case exhibited peculiarities in the fact that glaucoma supervened when the corneal disease had about disappeared. For this condition sulphate of eserin was used with, at first, good effect. An iridectomy on both eyes finally became necessary, and vision was afterwards normal in both eyes.

IRIS AND CILIARY BODY.

Iritis	1
" syphilitic	1
Cyclitis	1
Staphyloma of ciliary region	1
	Total, — 4

Staphyloma in the ciliary region of the globe was observed in a boy four years old, the result of an accident with a fork. Close watch of the eye was urged, the patient to be brought again in case of any subsequent inflammation of this or the fellow eye.

RETINA.

Retinitis pigmentosa	1
Detachment of retina	3
	Total, — 4

Retinitis pigmentosa in one case, a boy aged eleven, with vision, perception of light, and detachment of the retina of both eyes in three cases, all pupils of the State Blind Asylum.

OPTIC NERVE.

Neuritis	1
Atrophy	10
	Total, —11

Two cases of complete atrophy of the optic nerve occurred in children, the subjects of hydrocephalous, one after excessive use of alcoholics and tobacco. The remaining number after optic neuritis.

LESIONS OF GLOBE.

Phthisis of globe	6
Sympathetic ophthalmia	1
	Total, — 7

The sequellæ of sympathetic ophthalmia were exhibited in one case after injury in the ciliary region of the globe.

MUSCULAR AFFECTIONS.

Strabismus convergens	10
" deorsumvergens	1
	Total, —11

Strabismus deorsumvergens (downward squint) was observed in a man, aged about twenty-five years, with myopia.

ACCOMMODATION AND REFRACTION.

Presbyopia	2
Hypermetropia	1
Myopia	4
Astigmatism (hypermetropic)	1
	Total. — 8

Hypermetrophic astigmatism of $\frac{1^\circ}{60}$ required correction in the case of a seamstress, who was thereby relieved of marked asthenopia.

CHOROID AND VITREOUS.

Irido, choroiditis	2
Choroiditis	4
Glaucoma, acute	1
Opacity of vitreous	1
Choroidal atrophy	1
Foreign body in vitreous	1
	Total, —10

The case of acute glaucoma was particularly interesting, since the disease, which was confined to one eye, immediately subsided after the use of sulphate of eserin (one per cent. solution). This case is recorded in the Lancet and Clinic, p. 360, April 29th, 1882.

Foreign body in vitreous.—M—, æt. 35, German, machinist, of Springfield, O., was accompanied by his physician, Dr. Wissenger, of that city. While at work ten days before a small piece of steel from a chisel struck him in the right eye. Since the time of the accident the eye had been badly inflamed and the patient suffered from severe pain over the eye and corresponding side of the head. The eye, on examination, exhibited the following conditions: Small corneal opacity in lower and outer quadrant, opacity of lens, irregularly dilated pupil, anterior chamber shallow, tension of the eyeball much below the normal condition, vision perception light except in upper and inner quadrant of retina. The foreign body had doubtless entered the globe, and since the eye was destroyed, for the purpose of safety to the fellow eye, extirpation of the globe was advised and performed. A piece of steel, two *mm.* in length, was found floating in the vitreous humor.

LENS.

Cataract, hard and soft	7
" traumatic	2
" anterior capsular	2
" congenital	1
	Total, —12

Two cases of cataract submitted to an operation. (See operations.)

LACHRYMAL APPARATUS.

Obstruction of lachrymal puncta	3
Stricture of canaliculus	2
Purulent inflammation of lachrymal sac	1
Stricture of lachrymal duct	1
	Total, — 7

For these conditions Bowman's and Stilling's operations were performed with subsequent use of Bowman's probes where necessary.

ORBIT AND LIDS.

Blepharitis	2
Pterygium	1
Trichiasis	2
Dermoid cyst of lid	1
Ectropion	1
Entropion	2
Burn at inner canthus by gunpowder	1
	Total, —10

A congenital (dermoid) cyst of the upper lid was observed in a girl, aged five years, brought to the Dispensary at the instance of Dr. Turner. It had gradually attained the size of a chestnut. Its contents were epithelium, fat, and a large quantity of long hair. (For full report of this case see "Encysted Tumors of the Orbit and its Environments," by the writer, in the *Archives of Ophthalmology*, New York, October, 1881).

DISEASES OF THE EAR.

Auricle, eczema of	1
External meatus, eczema of	1
Impacted wax	5
Middle ear, chronic inflammation with perforation	3
Chronic aural catarrh	26
Middle ear, necrosis of	1
Nervous deafness	1
	Total, —38

In one case, the patient an old woman, the cochlea had been entirely destroyed by chronic suppuration, and a cavity sufficiently large to contain a large hickory-nut was found from which offensive pus was discharged.

OPERATIONS.

Tenotomy of internal rectus	7
" " external "	1
Iridectomy	6
Cataract (Græfe)	2
Enucleation of globe	3
Canthotomy	3
Bowman's operation	4
Stilling's "	2
Iridotomy for secondary cataract	1
Blepharoplasty	1
	Total, —30

Iridectomy on each eye was done in a case of secondary glaucoma. In the remaining cases the operation was for corneal opacities, with improvement of vision, the result. In one case of cataract, the patient a woman seventy-eight years of age, the operation was completely successful. In the other a slight membranous film in the pupillary space, the result of a subsequent iritis, required an iridotomy.

The whole number of cases seen was 211.

Indebtedness to Mr. Milton Fassig, my clinical assistant, is acknowledged for the arrangement of the material for this report.

TENOSYNOVITIS:
ITS CAUSES, NATURE, SYMPTOMS, AND TREATMENT: BASED UPON AN ANALYSIS OF FIFTEEN CASES

Read Before the College of Physicians, Philadelphia, June 7, 1882.

By William Barton Hopkins, M. D.

Surgeon to the Out-patient Department of the Pennsylvania Hospital, to the Dispensary of the Episcopal Hospital, and Assistant Demonstrator of Surgery in the University of Pennsylvania.

Tenosynovitis may be defined as an affection usually occuring in the forearm, and characterized by a peculiar creaking of the tendons as they move in their sheaths, depending upon a particular kind of strain to which the muscles belonging to these tendons have been subjected.

Cause.—The predisposing cause of the affection is the occupation of the individual, and in studying, therefore, fifteen cases occuring in subjects of otherwise average health, the nature of their employment is worthy of special attention. In three of the fifteen, the disease occured in men employed in a dyehouse, whose work consisted in wringing the goods, which had been soaked in dye; in two, the patients were weavers, who throw the shuttle from side to side with the index finger of the right hand: one case occurred in a baker, from kneading bread; one in a boiler riveter, from hammering; one in a car driver, from using the brake; one in an iron moulder from the continued use of the shovel: one in a plaster worker, from stirring plaster with a hoe;

one in a washerwoman, from using a clothes wringer; one in a laborer, who continued to work after receiving a severe contusion of the forearm from the fall of a heavy iron pipe; and one each in a rope twister, a marble rubber, and a painter.

In contrasting the above-named occupations with many others, requiring far more muscular effort, and giving employment to many more workmen than these, the idea suggests itself that it is not the mere amount of strain to which the muscles and there tendons are put, that predisposes to the disease, but rather the kind of effort, which is of a tedious, continuous, monotonous sort. On the other hand, trades which would appear likely to furnish subjects for the disease more frequently than those which have already been spoken of, fail to do so. This, in some instances, can be explained. Gold beating, for example, where an eight pound hammer is used almost uninterruptedly for five hours, and is carried from above the shoulder down to the level with the waist, would seem to contradict this view, as the disease is unknown to one of the largest gold leaf manufacturers: a careful study of the movements of the operatives in performing this work, however, shows that the strain is not upon the muscles of the forearm, but rather upon those of the shoulder and arm; as the hammer descends simply by gravity and returns by recoil from the elastic block, composed of alternate sheets of gold and animal membrane, to a point where the biceps and deltoid muscles complete the elevation.

The exciting cause of the attack is usually the resumption of work to which the individual is thoroughly accustomed, after a shorter or longer interval, when he is out of practice, and when the parts involved in executing special movements have become less actively nourished; though in the case of the washerwoman, the clothes wringer was used for the first time, and the rope twister was doing work that was new to him. In the laborer the attack was of traumatic origin.

Pathology. — The means of determining the exact lesion in this disease are necessarily to a certain extent conjectural, but as the pain and crepitation are coincident in their onset and subsidence, as there is no impairment of motion after recovery has occurred, and, as the parts under treatment regain their normal condition in a very short time, it seems highly probable that there is no true inflammatory process at all, certainly none extending beyond the stage of congestion, and that the creaking which exists is due to insufficient lubrication, with consequent dryness, not, as has been supposed, to exudation of lymph. Under rest and counter-irritation the congestion very soon disappears, the synovial surfaces pour out their proper fluid, and the tendons once more move smoothly and noiselessly in their sheaths.

Symptoms. — Soreness, amounting to positive pain upon motion or pressure along the course of the affected tendons, inability to use the part, and the presence of the peculiar creaking, which is communicated to the finger on palpation, are the symptoms which denote the existence of tenosynovitis.

Diagnosis.—From its common seat upon the dorsum of the forearm, this affection may be mistaken for fracture of the radius. The history of the case, however, showing that there has been no blow or fall, as a rule; the quality of the crepitus, which is much softer and finer than that of fracture, and like that of cellular emphysema after fracture of the ribs, or that produced by rubbing two pieces of cloth between the fingers, and the way in which the crepitation may be elicited—all leave little chance of error. The disease will not be mistaken for a strain of the muscle, if a careful physical examination is made.

Treatment.—From what has been already said, it will be seen that the disease is at once acute, painful, and disabling. It, however, yields, as a rule, readily to treatment; for the patient can seldom work more than a day after he is attacked and finding that he exhausts the usual home embrocations, without relief, promptly seeks aid elsewhere; this enables the surgeon to institute treatment before an advanced stage is reached and permanent mischief done by a deposition of plastic matter. Absolute rest of all the parts concerned, is the most important element in the treatment; a palmar splint, therefore, from the elbow to the tips of the fingers is applied, when the forearm is the part affected. Counter irritation is next indicated, and may be employed in one of two ways. If the skin is red, a band one inch broad of tincture of iodine should be painted in an oval form around the area over which the creaking is felt; while a lotion of lead water and laudanum is applied within this band. In cases where there is but slight creaking, and no redness of skin, tincture of iodine may be painted directly over the diseased part, without the employment of any lotion. The dressing is reapplied each day, until all pain, tenderness, and creaking have disappeared, which generally occurs at the end of four or five days. After this a roller bandage alone is continued, until the parts have regained their tone.

A BRAIN WEIGHING SIXTY-ONE OUNCES.

By Davis Halderman, M.D.,
Professor of Surgery in Starling Medical College,
Columbus, Ohio.

The subject of this vast brain was a mulatto man, named Washington Napper, aged 45, who died recently at St. Francis Hospital, this city, of blood-poisoning, induced by abscess of the thigh. He was a native of West Tennessee, and was a slave till 1862, when he deserted his master, and afterwards came North, with the Forty-Sixth Ohio Infantry to this place, which he made his home until the time of his death.

The writer happened to be surgeon of that regiment during the late war, and well remembers him then as the stout yellow contraband servant of Capt. Upton; and how he used to trudge along, day after day, in rear of the regiment, with his culinary trappings about him, in those long, weary marches on the Sherman campaigns. He was about six feet in height, and of rather ungainly build; had long, ape-like extremities, massive head, and coarse physiognomy, thick lips, protuberant lower jaw, high cheek bones, but lofty and expanded frontals.

He was never regarded as of much intellectual brightness, but is spoken of as having been of rather reserved and thoughtful disposition; and, later in life, to have become of quite a moral and religious turn of mind.

He was illiterate, but managed by industry, as a common laborer, and by close economy, to accumulate some little property, which, on his death bed, he bequeathed to his church and to the Sisters of the Poor, in return for their care of him during his fatal illness.

It will be observed that but two brains, whose weights are credited by scientists,[1] are on record heavier than this, namely, those of Cuvier and Abercrombie: the former, as is well known, weighing 64.33 ounces, and the latter, 63 ounces. So that if, as is held by some, intellectual greatness lies in the quantity of brain substance alone, who knows but with this man passed away another whose—

"Hands the rod of empire might have swayed,
Or waked to ecstasy the living lyre?"

ASCITES.

By J. Taylor Stewart, M.D., Berry, Ky.

First case a lady 72 years of age. I saw three months after the begining of her illness.

She was then in a condition of extreme suffering from ascitic distension.

I resorted at once to paracentesis, relieving her of about four gallons of fluid. The embarrassment to the respiration, circulation, etc., was promply relieved.

After interrogating the kidneys, heart, liver, and spleen with negative results, I referred the cause to peritoneal disease. Subsequently and during a period of twelve months, I operated 34 times, withdrawing nearly 100 gallons of fluid. The last operation was performed with Dieulafoy's aspirator.

Immediately after the operation a severe peritonitis set up.

It was with great difficulty the old lady was carried through. However, she made a perfect recovery, and the gratifying result is directly attributable to the peritonitis. Later, she suffered from malignant disease for which her nose was removed. Later still, she had a paraplegia from which she soon recovered. Not a vestage of the peritoneal disease remains, save a small induration in umbilical region.

Second case. A young lady aged 24, single, discovered a painless swelling in right ovarian region. When I was consulted she stated that it had been growing for six months.

On examination I found a large fluctuating tumor, the greater portion of which was to the right side of the median line.

I decided that the disease was located in the right ovary.

Using diagnostic needle of aspirator, obtained a small quantity of fluid which I sent to a distinguished medical gentleman of Cincinnati. After careful examination he reached the conclusion that the specimen was not of ovarian origin.

I reduced the tumor by aspiration, withdrawing thirteen pints of opaque dirty-looking fluid.

A violent peritonitis succeeded, after which quite a considerable distension was again relieved by tapping. After this several slight reaccumulations occurred. She finally made an excellent recovery, and is now in a state of health superior to any previously enjoyed.

Selections.

MEDICINE.

Should Insanity be a Sufficient Ground for Divorce.—By M. Blanche, being a reply to a communication of M. Luys, delivered at the Académie de Médicine, Paris, June 13th, 1882.

In the meeting of the 30th of May, 1882, our colleague M. Luys read a paper in answer to a communication of mine, upon the question as to whether insanity should be looked upon as a sufficient ground for divorce, Dr. Luys divided his work into two parts. In the first he considered the purely medical arguments, and in the second those which he calls the sentimental. Allow me to consider these arguments in order. According to Dr. Luys, whom I quote, I said:

"*It can never be said that any case of insanity is incurable. There are cases which put all preconceived notions to naught, and in this peculiar domain of human misery everything seems to yield to exceptions. It is the unexpected and surprising which continually appear. And in support of this opinion having mentioned the case of a patient cured after fifteen years of insanity, and having run over the different divisions of disease, showing that in all the groups of maladies we are constantly meeting unforseen results and finding ourselves at fault, I said that I, personally, could never say with certainty in any given case when reason was completely abolished or at what moment some circumstance might arise capable of bringing back the lost power to the mind.*"

On the contrary I held that it is well known that there are many cases of insanity in which the physician can positively say that there is no hope of return of reason, and that this incurability becomes then to the husband or wife who is sane a source of the greatest grief.

I would add while on this subject that very often the evil might be averted were marriages entered into with more care, and in many cases the period in which incurability without periods of sanity can be determined is comparatively a short one. In the first rank I place congenital affections already manifest and hereditary diseases which as a rule appear before the ordinary age of marriage.

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[1] The weighing in this instance was several times repeated in the presence of witnesses, directly after the removal of the brain, and again next day. At the latter time it fell very slightly short of the figures given, due evidently to the more complete drainage that had taken place. The accuracy of the scales was also carefully looked to, so that no doubt need be entertained as to the genuineness of the weight as set forth.

In a second group I would place affections of the brain which bring about those multiple symptoms, so learnedly described by our confrére, which go to make up the great class of the insane with encephalic lesions, which manifest themselves in disorders of the muscular system.

Finally, the third group comprises mania, monomania, melancholia, and lypemania, and it is in this last group that cases are found in which a cure is possible, often a long time after the disease manifested itself. It is regarding these cases that Dr. Luys supposed was asked of him, "*at the end of how much time can a given pathological mental state be said to be chronic, and as a result the dementia incurable, and the patient incapable of ever taking his place in society?*"

To this question Dr. Luys answers categorically that after four years in the case of a man, and five in the case of a woman, the physician can be certain "*in regard to the grave anatomical changes with which the patient is affected and from which he can never be relieved.*"

It is impossible for me to accept as just such a sentence for many patients, and I would insist that there are many cases in which one may say that they have passed into a chronic state without their showing symptoms of absolute incurability, and that this incurability can only be held absolutely for those who present at the same time symptoms of cerebral lesions.

In short, chronicity does not always imply feebleness or destruction of the faculties, and there are maniacs, monomaniacs and those afflicted with melancholia who remain as they are without becoming demented in the strict sense of the word. There are, it is true, many in which organic lesions are produced, but in these cases even if affected with general paralysis we cannot always say that life will be short and it is only a question of time. According to Dr. Luys the duration of life in a case of general paralysis is about three or four years, although in private asylums life may be prolonged for seven years. I have seen paralytics who lived longer than that, but I should do better to accept his figures since they uphold my opinion better than those I could cite myself.

There is one other point in which I must take issue with my honorable opponent. It is the subject of remissions, on which subject Dr. Luys expresses himself as follows:

"*The end of a case of general paralysis is death, and when one speaks of certain remissions in the course of the disease in which the patient leaves the asylum and seems to be as it were resurrected, we must hold that these are doubtful cases with an uncertain diagnosis.*"

With the greatest respect for Dr. Luys I must say that there are cases of general paralysis which have remissions, and I may speak of such cases without fearing that I will be misunderstood as speaking of cases of doubtful diagnosis.

I attended with Dr. Foville, Sr. a patient with general paralysis, whom we saw until his death, and where there could be no doubt as to diagnosis. This patient had a period of remission so complete that under the advice of an eminent confrére he married. It was not long afterward that he presented new symptoms of his cerebral affection which Dr. Foville and I had said was not yet cured.

Another case, which was seen by two of our colleagues of the Academy, Dr. Bronardel and Dr. Tilloux, regained his mind more than four years ago. He practices a profession which demands incessant mental work, and more than that he has been placed in a public position the duties of which he fills brilliantly.

A third case, after two sojourns in an asylum, lived perfectly sane for many years, until a last attack carried him off.

I could cite many more cases, but these are sufficient I think to prove that it is possible to have remissions in cases of general paralysis.

I do not call these remissions cures, no matter how long they may last. I call those cases only cures which, having become chronic and not showing symptoms of cerebral lesions, who leave the asylum, after twelve, thirteen or fifteen years.

These examples of cure of insanity after so long a time that they acquire a special interest and peculiarity Dr. Luys does not deny.

I thank him for this concession.

"*It will be permtted of me to say,*" adds he "*that observations leading to the results claimed, have never been carefully and scientifically made. What is claimed rests upon poor observations carelessly made, or upon mere hearsay and anecdotes. To deny a divorce under the idea that sanity might return after even fifteen years of insanity is to reason in the face of known facts, and to demand the passage of laws not upheld by good judgment.*

He demands then for his belief in these cases of unexpected cure, that the clinical observations should have been carefully made and followed up with precision; that the diagnosis be absolutely made, and the advance of the disease be studied month after month. Then only after having consulted our daily notes are we able to say that such a patient, having been insane, is once more able to again take his place in the world.

Finally, examining closely the cases I have quoted, Dr. Luys explains them as follows.

"*Have the facts alleged by my honorable opponent then such a powerful bearing, and is this single observation, made without precise details, able to uphold such a weighty result?*

"*We are told that the patient in question went out cured, that he recovered his mental faculties. But this assertion is almost immediately changed, and the psychological analysis of the patient shown to be wrong. In what mental state could this patient be who fifteen years after his supposed cure lapses into melancholia? How much of his mental activity returned? Is he apt to conduct himself like a sane man, and to do useful work with these reawakened faculties?*"

To which I would answer: I have indeed said that insane patients who have passed into a chronic state, showing symptoms of dementia and even showing symptoms of encephalic lesions, give us very slight hope of cure, but it would be the height of boldness to say that these patients are never cured, when in my own practice I have seen some who returned to health. And all physicians indeed have seen late and almost unhoped for cures. Among these physicians I must to-day except Dr. Luys, but he has not yet arrived at my age. I hope that some day he also will say that he has seen patients recover their health unexpectedly. As to the criticism directed against the observations and the facts cited by me, it is easy for me to refute them. It is very true that the case of the patient cured after fifteen years of insanity was not recited by me in all its details, and I intentionally gave you only the salient points of the case. In such cases the physician must use the greatest care in order that the patient of whom he speaks be not recognized. But although I felt that I had no right to bring the case forward publicly more in detail, still it does not follow that the observations were not taken with all the care that Dr. Luys would wish, and in the register of the establishment to which the patient was consigned, will be found, month by month, period by period, not short notes such as "state unchanged," but a careful description of his symptoms, remissions, exacerbations, in such a way that the progress of the disease can be followed up until the day the patient left the asylum, and with such reserve and care are these notes made out, that when our patient quitted the house the note does not read "cured," but relieved, and it was not until a long time afterward that I said he was cured. In these cases the cure begins in the asylum and is continued and completed in the family.

This is not the only observation reproduced from the register of the asylum. There can be found records of other patients whom I have seen cured, and they all were taken with the same scrupulous care.

My honorable colleague invokes the memory of Dr. Louis. I invoke it also. Dr. Louis has often shown to me the esteem and regard with which he honored me and my observations, and I would have submitted them to him without fearing that he would look upon them as vague anecdotes.

After having called in question the observation, Dr. Luys doubts the cure. He asks: *"In what mental state was the patient rescued from insanity? Could he conduct himself properly and do good work with his recovered faculties?"*

I must confess that I am astonished at this remark. Even supposing me to have made poor use of my experience and opportunities, still I hope that I am able to distinguish between a patient who has been cured and one who has not.

I have already told you what reserve and care I took before I wrote the word "cured" in my register of patients, and when I say a person has been cured I may ask, without being accused of demanding too much, that you put faith in what I say.

If I were only able to bring before you the patient whose cure you doubt you would, I know, be convinced, not only by any examination that you might institute, but also by the testimony of his family.

That is not the only case I could bring before you. There is another who was a patient of mine for twelve years. From 1868 to 1880 he had melancholia with illusions and hallucinations, who was under a careful watch, who to-day is relieved of every restraint, and who has given most convincing proofs of the strength of his mind.

Still another, who, from 1855 to 1873, was under treatment, and now cares in turn for a son afflicted with idiocy.

In this way I could go on almost indefinitely and bring as witnesses my learned friend Prof. Lasegue and other eminent colleagues. Let these suffice for the strictly medical side of my argument.

I come now to the purely sentimental part, and there I shall not detain you long, but I cannot allow to pass, without an answer, certain criticisms and opinions of Dr. Luys.

My colleague reproaches me for having placed in prominence the picture of *a man divorced while insane, and who when reason does return finds that he has no home and no family, and of having kept in the background the companion picture of his wife, living and healthy, but who is condemned to remain joined in bonds to a being deprived of the most noble part of himself.*

But have I not said that this situation was the source of the greatest suffering, and like all my confréres, have I not often been the confidant of this suffering? Although more fortunate than Dr. Luys I have met less weakness of sentiment and duty than absolute devotion, and what to him is a common thing is for me an exception, but still I can readily understand that there are many cases in which the misfortune is borne with impatience, and I can readily see how one can have considered how to stop the suffering and suppress the cause of it. But while I admit such feelings, I cannot admit it would be well to follow their dictates.

I have never been able to bring myself to the point of considering an insane man as different from a man suffering from any other disease, in many ways. There are points of difference, however, and they touch me deeply. One is the disease itself is the most cruel one which it is our duty to meet, and moreover, our patient, by the very nature of his malady, is unable to care for, and protect himself, and that makes it our imperative duty to assist and protect him. He would, it is true, see that they are well cared for in material things. This is something, but besides those who are *entirely wrapped up in themselves* there are others in whom sentiment still remains, who find in the visit of a parent, or a friend, a solace to their suffering and whose eyes speak even when their lips are mute. In regard to these, has one done his whole duty by providing for material wants alone? And if a physician ask more is it right to say to them, *"These are beautiful phrases under which one hides an error of observation and a false medical opinion. It is an effort to carry sentiment into practical life.*

No; gentlemen, I have not drawn for you a picture simply to excite your emotions. I have not sought only to raise your pity. If you join with me in these feelings, it is because we both have hearts.

As for the proposition of Dr. Luys to decide upon the curability or incurability of a patient when a suit for divorce has been entered against him, by means of a board of three physicians whose duty it will be to examine into his condition, and follow up his case for one or two years as the case may be. You can imagine, gentlemen, the effect of such a law.

Can we hope that the opinions of a tribunal will be always unanimous when we see how opinions on all branches of medicine differ? Using one of the expressions of Dr. Luys, I would say, do you dare to place a legal process on so insecure a foundation?

I have finished, gentlemen. You have before you both sides of the question. I do not wish to rest with the thought that my efforts have been futile and powerless to convince you. I rather prefer to hope that I may rely upon your judgment. — *Bulletin de L'Académie de Médicine, Séance de* 13 June, 1882.

DIET IN ASTHMA AND BRONCHITIS.—Dr. John C. Thorowgood calls attention, in the *Medical Press and Circular*, to the importance of carefully regulating the diet in cases of asthma and bronchitis. He describes how an overly distended stomach, by pressing on the diaphragm, may offer a mechanical impediment to free respiration, and may also interfere with the proper action of the heart. He mentions a gentleman who gained a great reputation for his ability to cure bronchitis and bronchial asthma by diet, and says that the great secret of this diet cure was judiciously starving the patient for a time. The stomach may be, to a certain extent, sluggish, so that it will not at the time feel any inconvenience from the excess of food forced upon it, but in an hour or two dyspepsia in some form will indicate the outrage has been perpetrated. The food used should be nutritious, without being bulky. A lightly boiled egg, the wing of the chicken, or some fish, with one cup of tea, coffee or cocoa, and toast, will form three alternatives for breakfast fare. Soups should be avoided at dinner, because they tend to distend the stomach. Vegetables should be used sparingly. Malt liquors, pastry, cheese and dessert should be rigidly eschewed, and for drink, claret, with water, or lemon juice and water, may be allowed. Effervescing drinks of all kinds are not to be commended. By this arrangement of diet we keep up nutrition, while we avoid overloading the stomach, and so oppressing the diaphragm. The heart and lungs are enabled to act freely, and the danger of sudden stoppage of the first named organ is put at a distance.—*Medical and Surgical Reporter*.

RECENT RESEARCHES ON BACTERIA.—*III. The Etiology of Anthrax.*—Till a few years ago, our knowledge of the etiology of anthrax was founded on the observations of Pollender, Brauell, and Davaine, who had found that small rod-shaped bodies were present in the blood of animals suffering from anthrax, and that inoculation with blood which contained these rods was followed by development of the disease; while the inoculation of blood which was free from these bodies—as, for example, the blood of the fœtus of an animal which had died of anthrax—did not produce any effect. These rods were motionless, and were generally held to be crystals, though some observers classed them among the bacteria. Such was the state of knowledge when Koch's first paper appeared, in Cohn's *Beiträge zur Biologie der Pflanzen*. In this work, Koch showed that these rods were really vegetable bodies; and that, when placed in a suitable medium, they gradually lengthened and subdivided, giving rise to new rods, which grew in like manner. He further observed, that in these rods bright oval bodies appeared; that then the rods broke down, the oval bodies were liberated, shoots gradually sprang out from them, which grew to rods similar to the original ones. In other words, the life-history of these bacilli was, that the rods grew by elongation and fission; that spores formed in them; and that, under favorable conditions, these spores again gave rise to fresh bacilli. These rods and spores, growing apart altogether from the animal body, always gave rise to anthrax when introduced into a living animal—thus proving that they were the cause of the disease. Further researches showed that these spores were the resting form of the organism: for, while the rods alone very quickly lost their vitality on drying, or after the action of various antiseptic substances, the spores retained their vitality in the dry state for an indefinite time, and were wonderfully resistant to destructive agencies. By these researches, the origin of anthrax, by infection through insects which have previously been in contact with blood containing these bacilli, and also the infection of man at post-mortem examinations of anthracic animals, was easily explained. The spontaneous origin of anthrax, its outbreaks at certain periods of the year, and the strange connection between particular soils and the occurrence of the disease, were still, however, a mystery; and the mode of development of the disease, where no wound existed, was also unknown.

A research, which at first sight seemed to be a considerable advance, was that published two years ago by Buchner, in which he stated that, by methods of cultivation, he was able to transform the deadly bacillus anthracis into the innocuous hay bacillus, and *vice versa*. Dr. Koch, in a paper in the *Mittheilungen des Kaiserlichen Gesundheitsamtes*, criticises Buchner's investigations, and shows that the conclusions are quite erroneous. As our readers may remember, Buchner cultivated bacillus anthracis in a large number of successive quantities of an infusion of meat; and he found that by-and-by, at variable periods, in different sets of experiments, the bacteria in these infusions ceased to be infective. A complicated apparatus, and various precautions, were employed, with a view of preventing contamination of the cultivating fluid. Now, in the first place, Buchner looks upon these two forms of bacilli as morphologically similar; but in this he is quite wrong: since, for instance, the rods composing the bacilli of anthrax have a very characteristic mode of junction, while the individual pieces are very different in form from those of the hay bacillus. Further, the hay bacilli have flagella, while the others do not. If the bacilli of anthrax be transformed into the hay bacilli, the process ought to be a gradual one, and intermediate forms ought to be found. In the same way, the change from noxious to harmless organisms ought also to be gradual; and forms which produce a modified disease ought to occur. But, according to Buchner, the change is a sudden one; the bacilli in one flask are very infective, in the next they are not; and Buchner does not refer to any change in form—indeed, he does not recognize the difference between them. Further, the change does not always occur at or even near the same time in different series of cultivations. These facts imply the entrance of some other form of bacillus, which has displaced the bacillus anthracis, and do not show the transformation of the one into the other. Now, extract of meat often contains impurities in the shape of spores of bacilli, and the form most frequently found is one closely resembling bacillus anthracis in appearance and mode of growth; and, from Buchner's description, it is evident that the solutions were not properly sterilised, while the apparatus employed was by no means perfect. It would really have been a proof of some change, if Buchner had got a rare form of bacillus, such as that of blue milk; but the replacement of bacillus anthracis by hay bacilli, is only what may be expected from contamination of the cultivating fluid. Koch and others, by using better precautions, have been able to cultivate bacillus anthracis for an indefinite time without alteration.

In the second part of his paper, Buchner performed a reverse experiment—viz.: He transformed, or rather thought he transformed, the hay bacillus into bacillus anthracis. He did this by growing the hay bacillus in blood which had not been sterilized; and, after a time, he got an infective bacillus, which he took for the bacillus anthracis. The experiment is, however, of no value; for it is stated that various forms of bacteria grew, and it is well known that the injection of putrefying blood will often give rise to an infective disease resembling anthrax. On this subject, we shall have to say something in a future article; but, in the meantime, we may state that Koch has made out the existence of a disease, at first sight closely resembling anthrax, and with very similar bacilli. These bacilli, however, have very marked points of distinction from those of anthrax, and they are found in the cellular tissue rather than in the vessels. To this affection, Koch has given the name of "malignant œdema"; and it is most probably this disease which Buchner got when he tried to transform hay bacilli into the bacilli of anthrax.

Researches which have a more direct bearing on the spontaneous origin of anthrax, and its occurrence in certain localities, are those made by Pasteur, some time ago. Pasteur apparently only recognises formation of spore outside the living body in the carcases of anthracic animals which have been buried, and also in the earth in their immediate vicinity. It was, therefore, necessary for Pasteur to find some explanation of their presence on the surface of the ground. This he did by supposing that the earth-worms brought up the spores from the deeper parts of the ground, and left them on the surface. The experiment on which Pasteur based this theory was the following: A sheep having died of anthrax, a post-mortem examination was made, and the animal buried at the same spot where it died. Ten to fourteen months later, earth was taken from the surface of this spot; guinea-pigs were inoculated with the earth, and died with what was diagnosed as anthrax. Pasteur, therefore, concluded that the spores had been brought to the surface in the castings of earth-worms. Now, there are various objections to this view. In the first place, it is not necessary to suppose that the spores were brought from the buried body; for, before the death of the animal, blood containing bacilli flows from the nose and mouth, and also the excretions, more especially the urine, are full of theee organisms. Spores will form readily in this blood and urine after its exit from the body, and thus there will be plenty of spores on the surface of the earth. Secondly, it is very seldom that spores will form in a body which has been buried; and, as the bacilli themselves will soon die, the body soon loses its infective properties. For the production of spores, a certain temperature is necessary. The best temperature is from 25° to 30° C. (77 to 86° F.). The formation of spores does not occur below 15° C. (59° F.), and, only with great difficulty and very slowly, below 18° C. (64.5° F.). Now, Koch has ascertained the temperatures of a great number of soils, at all seasons of the year, at the depth at which carcases are buried; and he finds that, in only one or two instances, and for a very few days, is the temperature sufficient for the production of spores. Hence, not only is the earth-worm theory unnecessary, but it is also erroneous; for it is very seldom any spores are present that could be brought up. Koch further made experiments to see whether these spores were really present in the castings of earth-worms. He mixed the spores of bacillus anthracis in large quantities with garden earth in a pot, and introduced into it twelve healthy earth-worms. At various periods of time he removed an earth-worm, washed it very thoroughly, then made an incision into it, collected the earth in its interior, and introduced it under the skin of mice. At the same time he inoculated other mice with portions of the earth. This experiment he repeated seven times. Six of the mice inoculated with earth died of anthrax, and of a mixture of anthrax and œdema. Of the seven mice inoculated with the contents of the earth-worms, only one died, and that of anthrax, which was long in developing, implying, probably, the presence of only one or two spores. When the large number of spores on the outside of the worm, and the difficuly of cleansing it thoroughly, are taken into account, it is by no means probable that this spore or spores were not in the interior of the worm, but came from outside. This experiment is not, of course, a weighty one; but, taken along with the other evidence, it tells against the earth-worm theory, Koch also calls special attention to another point. The spores of the bacillus of malignant œdema are plentifully present in earth, and a very careful examination is requisite to distinguish between that disease and anthrax; he therefore thinks it not improbable that Pasteur got malignant œdema in his experiments, and not anthrax.

Pasteur further propounded the view that, apart from infection by the stings of insects, animals became infected from their food; and that this occurred from the presence of siliceous material in the grass, and mixed with the fodder, which wounded the mucous membrane of the mouth, and thus allowed the entrance of bacillous spores. In fact, he found experimentally that the admixture of siliceous grasses with fodder containing bacillus spores led to the infection with anthrax of a large number of the animals which fed on it. He therefore concluded that this was one of the most frequent explanations o, auto-infection. What also gave support to this view was the fact that, in a number of sheep which Pasteur examined, and which had died of anthrax, the lymphatic glands of the neck were in most cases enlarged. Now, it is evident that an animal feeding on fodder containing anthrax material, must run a great risk of infection, in the manner described by Pasteur; but it by no means follows that this is the most frequent cause of infection in nature. For, according to Koch, the intestine is most frequently the primary seat of infection, with the exception of infection arising from the stings of insects; and, also, in many of the meadows where anthrax is frequent, there are no siliceous grasses. Further, the face of the sheep is almost the only exposed part; and, therefore, swelling of the cervical lymphatic glands does not imply infection from the mouth, as distinguished from infection by the stings of insects; while it is by no means a constant rule that the lymphatic glands nearest the seat of infection are the most enlarged.

The investigations of Buchner and Pasteur have, therefore, done little or nothing towards explaining the etiology of anthrax, and its prevalence in certain districts. Some facts, however, which are brought forward by Dr. Koch, in the paper to which we have referred, throw great light on the subject. Anthrax very frequently infests localities where carcases of anthracic animals have not been buried, and more especially in meadows which are frequently flooded. Now, here it might be supposed that the water had passed over the carcases of animals which have died of anthrax, and carried along and deposited some of the spores as it went. But, then, why should one meadow be affected and not neighboring ones? That the bacilli of anthrax can live. and form spores apart from the body, is now well known; for instance, they grow luxuriantly on potatoes. Koch tested infusions of hay, straw, etc.; but found that, as ordinarily prepared, they were very unsuitable media for the development of these bacilli; but, if neutralized, or made slightly alkaline, the bacilli grows with great rapidity and vigour; or, if in the hay there be present very fine narrow-leaved grasses, the resulting infusion is an excellent medium for the growth of these bacilli, without the addition of an alkali; or, if to the infusion made with the coarser grasses carbonate of potash or lime-salts be added, then they can grow luxuriantly. Thus, there are certain vegetable materials, particular grasses, plants containing starches, etc., which, when dead and kept moist, furnish an excellent medium for the development of bacillus anthracis; while, as in all anthracic districts the subsoil contains lime, even when these plants are not present, the lime renders the dead moist grasses a suitable soil for the growth of these organisms.

The life-history of bacillus anthracis may, therefore, according to Koch, be summed up as follows: In marshy districts, at the borders of rivers, etc., there is, in the warm months, a plentiful development of the spores of bacillus anthracis in parts where the suitable plants or subsoil are present—these spores being able to retain their vitality till the following season, when they again spring into life. When floods occur, these spores are carried away with the mud and deposited on the flooded meadows, where they become mixed with the food of the animals; and, if suitable conditions be present, develop in warm weather, and lead to the infection of the cattle or sheep grazing on the pasture. They generally enter the body through the intestine; develop there; kill the animal; are scattered over the ground in the blood and urine which flow from the animal; form spores; and are then ready to develope further, if the favorable conditions just mentioned come into play; or they will cause anthrax, if taken into the living body.

PERISTALTIC RESTLESSNESS OF THE STOMACH.—Professor Kussmaul (*Volkmann's Sammlung Klinischer Vorträge*, No. 181, in *Practischer Arzt*), by peristaltic restlessness, means the very marked wavelike movements of the whole stomach, which are only quieted when the stomach is completely empty of food. They are best observed in greatly-dilated stomachs with hypertrophied muscular walls, in cases of cicatricial contraction of the pylorus or duodenum. The excessive muscular action of the stomach is only an endeavor to overcome the mechanical obstruction. Sometimes it appears that similar movements may be neurotic, and not due to mechanical obstruction. He gives the case of an elderly nervous woman, in whom sorrow had caused diminished appetite, constipation, and slow wasting, for two years and a half. Then, in consequence of the misuse of purgatives, she got dyspepsia. There were never any symptoms of ulceration. On examination there were observed a low and subvertical position of the stomach, moderate dilatation, and excessive peristaltic movements. In considering these three points, Kussmaul observes that, with a pylorus at the normal height, the deepest part of a stomach of normal size may descend below the umbilicus, and take the appearance of a loop of intestine. Such a depression of the stomach often leads to the incorrect diagnosis of dilatation when splashing, cooing, or slapping noises are present. These must not be confounded, nor considered as of the same meaning. Splashing noises occur when water and air are shaken together by movements, either of the whole body or of the stomach alone. Cooing and slapping noises are best produced when the stomach only contains air, and when the abdominal wall at the epigastrium is quickly protruded and retracted by the patient himself, or pressed in several times successively by the physician. Cooing and slapping noises do not justify diagnosis of dilatation of the stomach, and even when splashing noises occur below the umbilicus, dilatation can only be diagnosed when simple depression can be excluded. The vertical position of the stomach, however, always disposes of dilatation. With regard to the entrance of bile into the stomach, the author observes that, in washing out the empty stomach, the water is often found to be tinged with bile. In other persons who also suffer from nervous or catarrhal dyspepsia without contraction of the pylorus or duodenum, bile is never found in the stomach in the morning. The reason why bile in some persons almost always passes into the stomach, is probably to be found in a difference in the formation and position of the pylorus and duodenum. The reason why bile passes more easily into the empty than into the full stomach, is, probably, that in the empty stomach the circular muscular fibers of the pylorus are relaxed. When carbonic acid is generated by an effervescing powder in the empty stomach, it passes very quickly into the intestines, provided there is no organic closure of the pylorus or duodenum. This incontinence of the pylorus is purely physiological. The author is unable to say whether the peristaltic restlessness in his patient continued during the night. Peristaltic movements of the stomach are abnormal when it is empty, and at no time should they be consciously observed by healthy persons; whereas, in the case just mentioned, the feelings of movement and contraction were very disagreeable. Despite this restlessness, there was constipation. The restlessness is especially marked in those cases of dilatation of the stomach where the vomited matters contain much acid. This fact suggests that the acid of the fluid contained in the stomach stimulates the peristaltic movements. Peristaltic restlessness is connected with conditions of the nervous system like those nervous tormina so frequent in hypochondriacal and hysterical patients.

LUPUS ERYTHEMATOSUS.—Dr. Th. Veiel draws the following conclusions from his study of this subject:

1. Lupus erythematosis is an independent disease, and not a form of lupus vulgaris.
2. A connection between lupus erythematosus and scrofulosis, tuberculosis, and syphilis, can not be established.
3. The affection of the sebaceous or sweat-glands is an accidental accessory phenomenon. The essential nature of lupus erythematosus consists in the pathological alterations which are found along the course of the bloodvessels.
4. No remedy has as yet been discovered, the internal use of which produces a cure for lupus erythematosus.
5. The most efficient local remedy for lupus erythematosus is multiple scarification, in connection with subsequent cauterization with chloride of zinc.—*Arch. of Dermatology*, April, 1882.

FORCED ALIMENTATION IN PHTHISIS. — This question has latterly attracted considerable attention in France, particularly through the clinical experiments of M. Debove, who has been in the habit of giving to such patients milk and eggs exclusively, but in large quantities.

At a recent séance of the Société Medicale des Hopitaux, he informed the Society that he had recently substituted pulverized meat for the former exclusive alimentation by eggs and milk. He was led to this practice through consideration of the fact that carnivorous animals are less frequently affected with phthisis than herbivora.

M. Debove makes use of powdered meat prepared as follows: The raw meat is placed under a powerful press and all the juice squeezed out, and put one side; the dry meat is then placed in a slow oven and finally reduced to a fine powder, which is carefully sifted. Four pounds of meat give, by this process, somewhat over six ounces of this powder, which may be mixed with or beaten up with eggs, for use in alimentation.

Relatively, considerable proportions of meat thus prepared may be taken on weak stomachs. M. Debove habitually administered, per diem, half a pound of this powder with twelve eggs and a quantity of lentil flour. Phthisical patients thus nourished regain flesh rapidly, and at the autopsy of one of them who died through accident, it was found that there was a commencement of cicatrization in some of the cavities.

M. Dujardin-Beaumetz confirmed the results obtained by M. Debove's method, and stated that he had also found it of inestimable service in two cases of incoercible nervous vomiting.—*Medical and Surgical Reporter.*

PHTHISIS: ON THE THEORY OF INFECTION, AND ITS INFLUENCE UPON TREATMENT.—W. R. Thomas, M. D., M. R. C. P., writes as follows to the *British Medical Journal:*

I so frequently meet with patients suffering from phthisis in whom no hereditary tendency whatever can be traced, but who have lived with another or others who have suffered from the same complaint, that I can not help thinking that the disease must be infective; more especially as, in many, what we consider to be the predisposing and exciting causes have not been present to any great extent.

Now, if phthisis be infectious, and if we can satisfy ourselves by careful observation that it is, that knowledge alone will enable us, by recommending certain precaution to be taken, to save the lives of thousands who might in the future, being ignorant of the fact, expose themselves to the infection, and ultimately die of the complaint.

The following are examples of cases to which I have before referred:

1. A married woman, aged 30, has extensive deposit in the upper part of her left lung. Her husband died eight months ago, of phthisis, and she has never been well since.
2. A phthisical young man, aged 24, slept with another young man for two years, who afterward died of phthisis. He has never felt well since; he gave up living with his friend two years ago.
3. A young man about thirty, is decidedly consumptive; his wife died about eight months ago of the same complaint.

Some maintain that in phthisis, the morbid process begins with proliferation of the connective tissue elements of the outer walls of blood vessels: and that this action gradually involves the cellular tissues. Dr. Burdon Sanderson maintains that the disease begins with proliferation of cells of adenoid tissue, which is abundant everywhere, and often connected with the walls of blood-vessels. Dr. Klein says that the first changes take place in the alveoli and interalveolar septæ; that the epithelial cells become enlarged and detached; that they then proliferate; and that either by their coalescence, or by the enlargement of one, a multinuclear cell is formed; and that degenerative changes take place afterwards.

Probably all these theories are correct; and it may be that certain irritating particles, when they come in contact with the delicate lining membrane of the tubes and alveoli, produce proliferation of cellular tissue corpuscles, of cells of lymphatics, and of epithelial cells as well.

Now, if it be true that phthisis is infectious, not only may we be able to adopt certain precautions to prevent infection, but our treatment also may be influenced by our belief. We know full well that there are certain medicines which are known to be poisonous to some of the lowest forms of life: and such remedies, when inhaled, may act beneficially. Indeed, phthisical patients are regularly recommended by our best authorities to take long sea voyages, and they often return much improved; and we naturally believe that the mode of living and the pure sea air has cured the complaint. Is it not possible that the constant inhalation of an atmosphere impregnated with tar has had much to do with the cure?

Lately, I have been in the habit of recommending phthisical patients to use a medicated respirator; and the majority have certainly confessed that such use has lessened the cough and amount of expectoration to a remarkable degree. I have seen patients who have had most decided symptoms of phthisis, in the first and second stages almost entirely recover. All the symptoms have disappeared, and nearly all the physical signs, to such an extent that they have been able to return to their former occupations. Certainly I have, in these cases, tried to improve the general health by other treatment as well; and I have seen cases of phthisis recover under such other treatment before; but, the difference in the number of successful cases has been so great, that one must come to the conclusion that the inhalation has had much to do with the recovery.

We are apt to discard all new theories and all new methods of treatment, and we are not alone. Those who have gone before us have done likewise. We see theories propounded by some years ago, and then not received, brought forward in our day with additional explanations, and at once accepted by the profession. We known of remedies, recommended most earnestly by some before we were born, and then rejected, now-a-days brought before the notice of the profession, and becoming generally used. Owing to our advanced knowledge, we can now see what could not be appreciated before: and, in the interim, thousands have died whose lives might have been saved.

THE LOCAL TREATMENT OF PHTHISIS BY CARBOLIC ACID.—Robert Hamilton, F.R.C.S., of Liverpool, writes as follows:

The primary dependence of the lungs on the external atmosphere, for their healthy nutrition, distinguishes them from all other internal organs, and makes apparent a certain resemblance between them and the skin; a remblance not merely imaginary, for they are structurally identical in many points. And where they are so, it is evidently for the same physiological reasons; namely, to carry out an interchange which must increasingly continue, so long as vitality lasts, between the atmospheric constituents, and the particles which the lungs and the cutis alike bring to their respective surfaces, in the process of nutrition. By the lung-surface, is here meant the inner walls of the air-cells and of the terminal Bronchial twigs.

The relationship of the skin to the surrounding atmosphere is one of great importance. In the many varieties of skin-disease which occur, there are several which, undoubtedly, arise entirely from external agencies directly impinging upon the part affected, and producing the abnormal appearance it presents; and we may go further, and and say of the large majority of skin-affections which are set down to internal causes, that very many of them evidence, by their amenability to local treatment alone, that externel agencies have a power over them sufficient for their removal, even though their origin is supposed to be in altered or in some depraved condition of the blood; and the deeper thought that underlies even this latter truism is, that there are local skin-conditions originating in external influences which have prepared those parts far more readily than others undergoing the structural changes which the altered or defective blood will set up; in fact without which, the blood could not manifest its deficiences. It is a thought within a thought to attempt to explain why, for instance, the patches of psoriasis or eczema appear at any particular spot; but it is helpful to call to mind that in all diseases there are two distinct factors which have to be brought together, whose combined action is nesessary for the production of the functional and structional changes which ensue. It is apparent in skin-degradation—it is probably true in all internal—*malaises*—and it is undoubtedly true in that special form of lung-disease we call phthisis, and it may be in all the other forms. In consumption, we have predisposing condition of the lungs, which may be more precisely described as a state of lung-development, that is, of cell-growth, defective in one or more points, either inherited or the result of insufficient surrounding sanitary conditions, and thus not fully commensurate to to do the work they are called to maintain, or to contend against the malign influences which at times are brought to bear upon them. Now what are these malign influences? They come to the lungs directly through the medium of the atmosphere, which carries them almost without impediment into the very heart of the tissue, not filtering them or minimising their quantity through other media, as when they pass along with food into the stomach and are subjected there and further on to so many processes, that their individuality or power of working any changes on their account it is as a rule lost. Giving these malign influences another name and calling them germs (and surely we may do so with the knowlege we have acquired on the subject), we are brought at once to reason on their *modus operandi*, when they impinge upon a soil prepared for them—in other words in a receptive condition—whether the lungs or elsewhere; and our reason is founded on analogy. How do another set of germs act when they alight upon a surface freely exposed to them where formative material on a large scale is being elaborated as on the stump of a recently amputated limb, or the raw surface of a burn? The action of these germs is to arrest the vital processes of repair, not in its earliest stage, but somewhere along the line just where cell-growth is passing from the general to the particular to become a special form of tissue; and the blood-corpuscle which was about to be—or had recently very rapidly, and is unpleasantly pungent and penetrating. I have also found it a very convenient plan to mix these substances, such as creasote, carbolic acid, eucalyptol, or turpentine, with equal parts of spirits of chloroform. It helps to diffuse and vaporize these substances, and it is itself somewhat of an antiseptic; and has also a soothing effect.

Before applying this reasoning to what takes place in the lungs in phthisis, we must allow the truth of another of the theories which is now pretty well established as a fact, with regard to germs; that is, the specific qualities which many of them possess. It would take up too much space to give all the reasons in favor of this view; but if it be granted (and how we can account for diptheria, typhoid or cholera on any other supposition it is difficult to see), then the resemblance of the action of germs in the lungs to the action of germs on the fauces, in diphtheria for instance, may be thus traced. The air-cells of the lungs and the finer twigs of the bronchial tubes, weakened by long exposure to a vitiated atmosphere, or not originally in all parts well developed from hereditary causes, receive at some times an air charged with specific germs; and these latter alight on the cell-walls, and put a stop to the progressive changes taking place in those blood-corpuscles with which they come into contact, and thus arrest, to a large extent is put to the perfecting of new material, whilst yet the old and effete continues to disintegrate and pass away. Healthy formative material becomes for a time the nidus, out of which the sporules of a vegetable organism multiply.[1]

But it is not the ordinary non-specific germ such as we have met with in every suppurating surface, but the particular one, which has characteristic properties of its own, which is the producer of phthisis. When it finds an entrance and a feeding ground prepared for it, and above all certain atmospheric conditions of temperature and moisture,[2] it rapidly converts to its own growth and material development the formative material which the blood has brought to the walls of the air cells. The development of the tubercular germ proceeds in this way to the stage of reproduction, and there stops. The parent germ then loses its vitality and disintegrates, and it is this disintegrated germinal matter that constitutes the purulent expectoration of phthisical patients. It has, however, left its seed behind it, to go through the like stages at the expense of normal tissue.

Looking at the origin and course of phthisis from the above point of view, how should we plan our treatment? Firstly we want a weapon which shall be quickly fatal to our enemy; and secondly, we must bring it into direct contact with the foe. These are the two problems we have to solve, and they are surrounded with great difficulties. May we say at least that we are in the right track at last? We are experimenting on the best method of reaching the lungs directly through the trachea, and we are casting about to find the best germicides. These are the specific weapons of our warfare. The auxiliary ones remain the same as they have been for some time—abundance of fresh air, purity and dryness of the same, and carefully selected diet.

The attempt to reach the air-cells by direct inhalation of the medicine we want to apply, need not be considered an insuperable one. To continue to do so only through the medium of vapor or steam is a mistake, for the reasons stated in my former paper, the medium itself has proved injurious, and therefore has acted as a hindrance in the way of successful prosecution of this form of treatment. Most medicines can be triturated or in some way reduced into particles lighter than air, and thus become capable of inhalation if brought into close proximity with the entrances to the air-passages.

That which at present awaits discovery is, what particular agent is capable of destroying the germ which sets up phthitis. At present, we are trying carbolic acid. We do this; reasoning from analogy, we have found that it exercises a deterrent action on the development of pus in other parts of the body, that a healing process will go on under an atmosphere of carbolic acid more rapidly than without it; and therefore we conclude, if its presence is a check to all other than normal action where an outward lesion is being repaired, it will have the like effect on lung-tissue when in a diseased state.

I admit at once that the two conditions can be shown in many respects to be dissimilar; but there is sufficient parallelism for us to advance a step further in the same line of argument, and urge that, though carbolic acid may not prove successful in checking tubercular deposit with its attendant results, and so permit healthy action to prevail, yet it is only a question of the substance used, not of the principle involved. Why have the pine forests of Brittany proved so beneficial to many consumptive patients? or why has sulphur-inhalation arrested the disease in many others? Are we to disbelieve these things, and assert that the beneficial results were due to other causes? I am not inclined to do so, but firmly believe that the continuous inhalation of an air moderately impregnated with some perhaps yet unknown vegetable or mineral product will ultimately prove the cure of phthisis.

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[1] The terms, "blood-corpuscles" and "formative material" are here used indifferently, for it is imppossible to define at what stage from the moment of the blood-corpuscles escaping the vessels to their changed condition as germinal matter, the micrococci of a fungus act upon them.

[2] That certain conditions of temperature and moisture are necessary for the development of germ-life has been long known; but it is only lately that we have arrived at the conclusion that each of the specific germs has a temperature and moisture of its own, without which it cannot burst into active life. This holds true of the phthisis germ, as well as of the diphtheria and cholera germ.

But where are we to find the specific mineral or vegetable which is to do this? We can but grope on, testing and trying various ones. We may not be far from the needed substance, if we follow on the lines indicated by the good results which every now and then follow the inhaling of creasote and other preparations from resinous exudations andof sulphur.

These few thoughts on a subject of pressing importance—for there can be little doubt that phthisis is on the increase—are written for the sake of directing attention to the endeavors that are being made, both here and on the continent, to bring this formidable disease under a certain line of treatment—one, in fact, which has for its starting-point the assumption that phthisis pulmonaris is the product of the action of a specific vegetable sporule, and that it can only be successfully encountered by bringing it into direct antagonism with its own germicide.—*British Medical Journal.*

TREATMENT OF CHANCRE BY GLYCERINUM BORACIS.—Dr. George Thin recommends the constant touching of chancres with glycerinum boracis, and reports three cases in which it appears to have produced good results.—*Lancet*, May 27, 1882.

SOME PRACTICAL POINTS IN THE TREATMENT OF HÆMOPTYSIS.—In bringing forward, in a brief manner, some practical points in relation to this question, I will, for the convenience of the first part of my object, divide cases of hæmoptysis into three kinds; first, the slight; second, the copious; and third, what may be termed the explosive.

In the slight form, the basis of the sputum is composed of mucus, which is stained more or less deeply with blood, the bleeding vessel being of small size. The most successful remedy for this form is ergot.

In the second or copious variety, the expectoration consists of pure blood, the quantity of which may vary up to a very large amount; and the bleeding ceases gradually until the attack is over. Here, again, the most successful remedy is ergot, and indeed it is in this kind of hæmoptysis that ergot is especially efficacious. In order to prove efficient in hæmoptysis, however, ergot must be given boldly. One teaspoonful of the liquid extract is a suitable dose, and it may be ordered every half hour, hour, or two hours, according to the urgency of the case. If it is doing good, it is a mistake to leave it off before the sputa are bloodless, although the intervals between the doses will be lengthened as the hemorrhage abates. In a few of these cases, ergot will fail; not in many. but now and then. If seven or eight doses be ineffectual, it is best to abandon it. The next remedy worthy of confidence is gallic acid, which it is necessary to give freely, in doses of fifteen to twenty grains, at intervals the same as in the case of ergot. Should there be tedious delay in the final clearing up of small traces of blood from the sputa, an acid mixture with quinine is usually effectual; or, if very obstinate, ipecacuanha, in twenty-minim doses of the wine pushed to slight nausea, will generally remove them.

In the third or explosive varity of hæmoptysis, the attacks are profuse, sudden in their onset, all at once ceasing, often for many hours, then abruptly breaking out again. There is no gradual subsidence. The lesion is probably a rupture of some aneurismal sac in the wall of a cavity. Now it is in these cases that ergot is hardly ever of much use. In my experience, the best remedy is turpentine internally, with cold applications over the chest. Three half-drachm doses of oil of turpentine may be given, half an hour apart; or, if care be taken to follow it with castor oil, even more than three. When the turpentine is left off, it is well to follow up closely with a mixture of gallic and aromatic sulphuric acids, sulphate of magnesia, and quinine. It is particularly in this type of case that digitalis is often useful for calming vascular excitement. As the patients often make blood very rapidly, the free use of aperients ought to be enjoined.

Nothing would be easier than to quote a long string of remedies for hœmoptysis, but my present object is to leave prominently on the mind one or two that can be relied upon, and to indicate their spheres of usefulness. Nor is it necessary to dwell on certain instructions which apply to all forms of blood-spitting. Constipation must go unrelieved, and is best treated by salines. A quick pulse must be steadied by digitalis, of which perhaps the most handy form is the digitaline granule of Homolle and Quevenne. Cough is to be soothed; the simpler the mode of accomplishing this the better, but it must be done; and nothing answers better for this man than a chloroform pad laid over the sternum.

Speaking in a general way, and not alluding to hæmoptysis of cardiac origin; I hold that we should keep before our minds the advisability of stopping all blood-spitiing in phthisis without delay. To this rule perhaps, there are two exceptions. The first is trivial. It is that dirty-red, slimy, bad smelling, never abundant expectoration which hysterical women with phthisis often exhibit at the bottoms of their spittoons; this may left to itself. The other exception is a serious one; it comprises those forms of hæmoptysis, usually copious and angry, occurring in advanced and very chronic cases where there is a considerable amount of fibroid induration. In such patients, notable dyspnœa on exertion has for a long time past been a prominent symptom, and respiration has been maintained by a very small extent of lung-substance. These cases are open to a special danger —that of fatal embolism in the right chambers of the heart or pulmonary artery. Not uncommonly, the course followed is for the bleeding gradually to abate in quantity, remaining, nevertheless, of the same angry red; then urgent dyspnœa suddenly set in, and death takes place within forty-eight hours. These are cases calling for extremely careful treatment. Can it be right, where only a small surface is available for respiratory function, to contract those few vessels with ergot? Or can it be good practice to pass styptic medicines into a patient's circulation when his cachectic state, his low vitality, and perhaps some febrile movement, render him especially liable to the formation of thrombi? It is wisest to limit ourselves to external applications, chloroform pads, dry cupping, sinapisms at a distance or other derivative treatment, with appropriate general management.

Perhaps I may be allowed to conclude with two cautions, commonplace they may seem, but both of them the outcome of bedside experience. One is, to have some responsible person in attendance, night and day, on all cases of severe bleeding, till the attack has completely passed away. Death in hæmoptysis is generally sudden, and it is very appalling to discover too late the consequence of omitting this precaution. The other is, to decline positively to examine a patient's chest while there is any hæmoptysis. Irrespectively of the danger of the process, an opinion arrived at by auscultating a chest during or immediately after a bleeding is not a reliable one.—Jas. M. Williamson, M. D., in *British Medical Journal.*

SURGERY.

Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Diseases.—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F. R.C.S. (Continued from our last issue.)

Lecture II.—We concern ourselves to-day with some of the most remarkable facts in respect to what is known as idiosyncrasy. In the definitions which were attempted in the previous lecture it was fully admitted, nay insisted on, that this word is intended to denote our ignorance of causes, but in no degree to express disbelief in their existence. Probably this ignorance will have to be, in most instances, only temporary, and the results which we need assign to idiosyncrasy and leave thus unexplained, will, one by one, be transferred to the domain of the several diatheses concerning the causes of which something at any rate, if not all, is known. Idiosyncrasy is, indeed, to a large extent, nothing but diathesis brought to a point. It is peculiarity of constitution in some one particular feature developed to a height, which at first sight seems inexplicable and possibly almost absurd. It is individuality run mad. In seeking to understand the real name of that with which under this name we have to deal, we must keep in mind that it is by no means always the isolated phenomenon which at first sight it appears. For one man who rises to the height of peculiarity which deserves the name of "miser," there are a thousand in whom the quality of thriftiness is developed in various degrees beyond what is praiseworthy. The miser is only the thrifty man developed in great excess. So it is with the relations between diathesis and idiosyncrasy; for one person who cannot take the smallest possible dose of quinine there are thousands who betray unusual susceptibility to the drug, and many of them in high degrees. Here, I think, we gain an insight into the way in which idiosyncrasies possibly take their origin. They are diatheses, or parts of diatheses developed, intensified, and specialized in hereditary transmission. That they depend upon structural peculiarities we cannot doubt, although we may be quite unable to demonstrate their physical cause. The man who is poisoned by a drop of atropine solution applied to his conjunctiva is as certainly the subject of some peculiarity in his nervous organization as are those who cannot distinguish red from green, or those who are born without the sense of hearing. It may here be remarked that the term idiosyncrasy is not, I think, ever applied to acquired peculiarities, but solely to those that are congenital. Some, perhaps, may be overcome; many, as age advances, undergo modification, but, as a rule, all are present at birth, and persist through the whole of life. It is probable that all, when once developed, are hereditarily transmissible, and I am obliged to believe strongly that if inquiry were made we should, in almost all instances, find that all strongly-marked idiosyncrasies had been present in some degree in former generations. I suggested in last year's lectures, and with, I think, much plausibility, that the hæmorrhagic diathesis so strongly hereditary when once produced, unknown in the lower animals, frequently coincided in the individual with gout, has its origin in the peculiarities, of vascular structure which are developed by gout, and become modified and specialized by transmission through many generations. So I would venture now to ask considerations for similar hypotheses in reference to the other forms of idiosyncrasy of most, or of all, of which every fragment of genealogy has been lost. We have defined idiosyncrasy to be a peculiarity of the individual, usually a rare and exceptional one, which does not necessarily entail any degree of proclivity to disease, but which may become obvious under a variety of exciting causes. It is often much as if by the introduction of some test solution, a chemist should discover the presence of chloride of sodium, or some other salt in water he had had no reason previously to suspect. The various incidents of life in connection with diet, drugs, and the exposure to the ordinary causes of disease apply these tests for us, and most unexpected revelations do they sometimes make. Now we find that an individual apparently in no respect different from those around him, is poisoned by the smallest quantity of some ordinary drug, or that he cannot digest some one article of diet which is daily food to his companions; or, again, that the virus of some specific fever either produces on him no apparent effect, or may be attended by symptoms of tenfold their usual violence. Sometimes it is an extraordinary immunity which is revealed, and sometimes an almost incredible degree of susceptibility. We can never predicate anything as regards idiosyncrasies of function until the trial has been made. There are, however, a certain class of individual peculiarities of the same nature which do not always remain concealed. I allude to those in which the structure of some external and visible organ is affected. The peculiarities which we have hitherto classed as idiosyncrasies concern function only. But a moment's consideration will make it evident that they must depend on structure, and that they have really exact parallels in certain congenital defects or peculiarities in external organization, which may or may not entail inconvenience to the individual. A coloboma of the iris is a structural idiosyncrasy, so also is the persistence of the nerve sheath in the retinal nerve fibres in the human eye, which the ophthalmoscope occasionally reveals unexpectedly. And each of these peculiarities may, indeed, must, entail some degree of deviation from the normal condition of vision. It is true that some congenital defects of structure occur in such an irregular manner that we prefer rather to class them, at any rate for the present, as mere accidents of development, or freaks of nature, than as idiosyncrasies, such are, for instance, moles, nævi, and the like. In the idiosyncrasies, however marvelous some of them may be, there is usually a certain reference to law and order to be noticed. They do not occur absolutely by chance and they often appear to be correlated with other less startling peculiarities, and they often occur to several members of the same family, or are distinctly hereditary. I have instanced coloboma of the iris as an example of congenital idiosyncrasy of structure, and by its side I might put hare-lip, clefts in the eyelid, absence of the levator palpebræ and many similar defects. These congenital peculiarities of structure which do not entail any tendency to advancing disease of the whole organization, but idiosyncrasies rather than diatheses are not always apparent at the time of birth. Thus, a child may be born with its skin as far as can be observed in a healthy condition, but in whom within a few months of birth a harshness will be observed which will develop itself into the typical condition of ichthyosis. If this happened to but a single child in a family we might search about for some cause of disease to which the infant had been subjected. But, if it happens to child after child in the same family, we cease our quest in this direction, and begin to feel certain that it must depend upon some congenital peculiarity in the structure of the skin itself.

Permit me next to ask your attention in some little detail to two groups of facts recently brought under my notice which will illustrate my argument. Mr. Balmanno Squire was kind enough last autumn to bring for my inspection a series of cases of most unusual interest. Very briefly the facts were these: Three children from the country, two sisters and a brother, of apparently healthy parentage, and having several other brothers and sisters who ailed nothing, were themselves the subjects of a malady the precise counterpart of which I had never seen before. It was exactly alike with some minor differences of degree in the children. Had it been a congenital deformity or arrest of development, its occurrence in several members of the same family would have been nothing remarkable, and we should have been able to place it with any fresh wonderment at the marvels of pathogenesis by the side of ichthyosis, color blindness, deaf-mutism, and other well recognized family diseases. But the disease in question by no means fitted closely with these. It had not been congenital in any one instance, but had developed in each child some years after birth. It consisted in an inflammation of the skin of the face and upper extremities which had covered them with crusts and scabs, and which, on some parts of the face, the nose especially, had caused ulcerations exactly like lupus. In fact, anyone seeing the nose only would have had no hesitation in naming the disease lupus. But on the arms it was different. Here there was no evidence of new growth and very little of ulceration, but simply a diffuse more or less pustular inflammation. From the occurrence of the disease on those parts most exposed to air it was to be assumed that such exposure was the exciting cause. As it had not materially varied with the season, and as the feet had not suffered from chilblains, we may conjecture that the irritating influences were wind and sun rather than direct cold. Let it be noted that in each of these three cases the disease had persisted for several years, and, allow me to repeat, that in all three children it was essentially alike. What a lesson have we here as to the possibilities of hereditary diathetic proclivity! I doubt whether in the whole population of the British Isles, at the present moment, another case could be found which should offer anything approaching at all closely the disease I have described; and yet it had been possible, in the cases of these children, for the influence of parental combination of tendencies, to be so definite and so peculiar, that they all developed in precisely the same form. I have already mentioned ichthyosis as affording us an example of a disease which is often met with unexpectedly in many members of the same family, and probably after all, it affords us the nearest parallel which we can find to these cases. It, however, in greater or less degree, is tolerably common, and generally there is some history of its having happened in former generations. It, too, is very often congenital, or if not actually present at the time of birth, it develops so soon afterward that we can easily believe that at any rate the peculiarity of skin giving tendency to it was congenital, and was of the nature of an arrest in the perfection of development. In cases which I have described, however, the mind less easily grasps such an hypothesis, the disease being distinctly of an inflammatory kind, not affecting the whole surface, and not beginning until a considerable period after birth. Ichthyosis, for the most part appears to be independent of local exciting causes, but it is by no means wholly so; and we must remember that in Mr. Squire's cases, although the local causes are clearly influential they have been so trivial in amount that we have been obliged to place the inherited proclivities of the tissue in by far the foremost position. Inherited proclivity of tissue of a similar kind, that is giving tendency at a certain age, under very insignificant exciting causes to definite and peculiar forms of inflammation is probably a thing which we very frequently encounter in practice, but it is not often we can demonstrate its reality in such a striking manner as Mr. Squire's series of cases enables us to do. It is chiefly on this account, although in itself an extreme rarity, yet teaching us a wide lesson, that I have thought it worth your attention. When we see tubercular disease of the lungs manifest itself in one after tho other of a number of brothers and sisters without obvious cause and run its course in each unchecked by treatment, we probably witness an illustration of the same pathological law. It is to be remembered further that, although it is when several members of the same family show tendency under the same circumstances to disease of the same part, that the doctrine of inherited proclivity of tissue is strongly enforced, that there is yet every reason to believe that the same cause is operative in countless examples of diseases occurring only in single individuals. During the winter session just past two series of remarkable examples of xanthalasma in children, and in several members of the same family at the same age, have been brought before the Pathological Society. In one of these two brothers and a sister now adults, were shown by Dr. Stephen McKenzie, all three the subjects of xanthalasma in a slight but definite form, and all with the history that it had been noticed at birth. Mr. James Startin showed a brother and sister, still young children, in whom similar conditions were present in much more conspicous forms, and in whom they had been noticed within a few years of birth, but were believed not to be congenital. In all these cases the changes are symmetrical, and occur in the limbs, neck and trunk, omitting that part most usually affected when the disease developes, *de novo*, in adults—namely, the eyelids. In none is the affection attended by any derangement of general health, or tendency to liver disorders, and it seems probable from Dr. McKenzie's cases that there is no tendency to increase, the three patients, now adults, having been in their present condition from early childhood. Thus, the general features of the malady differ exceedingly from those of the more common form as we see it in adults and approach those of some other form of skin disease—psoriasis and ichthyosis, for example. Histologically, however, the local changes in those cases are those of xanthalasma, and as such we must class them. In Mr. Startin's case the resemblance to psoriasis, as regards symmetry and location of patches on the tips of the elbows, &c., was very marked. If speculation respecting such rare conditions may be permitted, I think it should proceed somewhat on these lines. We know, respecting psoriasis, that it is very hereditary, persisting through many generations, but rarely showing itself in more than a single member of the same family, and not unfrequently undergoing apparent transmutation into other forms of skin disease, as, for instance, nummular ecquana, lichen rubra, pemphigus, and ichthyosis. Of its connection with the latter malady, parents the subject of psoriasis having ichthyotic children, I adduced some evidence in my last year's course of lectures. Of ichthyosis itself we know that it usually occurs in several members of the same family, is hereditary, but often omits a generation, or fails to descend in the direct line. Xanthalasma we have as yet known only as a disease which occurs chiefly in the eyelids of adults who have suffered from liver disorder, and which hardly ever in adults developes on other parts of the skin, excepting in connection with jaundice. It is in part a new growth, and in part fatty degeneration, and its peculiarities as regards color, &c., clearly have a close connection with the presence of bile pigments in the blood. I do not think that there can be much dispute as to the possibility of inheritance of any tendency to tissue change which has existed for a long time in the individual who was its first subject, and in whom it had showed itself a considerable time before the birth of offspring. Nor is it in the least certain perhaps not even probable, that much hereditary tendancy would be manifested in the first generation. If we apply these facts to the explanation of the occurrence of xanthalasma as a family, and almost as a congenital disease, apparently of no diathetic significance, I think we should conjecture that it is probably derived from some progenitor who had acquired the ordinary hepatic form of adults. And further, I cannot help the suggestion that it is possible that this inheritance has met and combined with a degree of proclivity to the group of skin diseases of which psoriasis is the best type.

Let me recapitulate: If a child shows within a year or two of birth yellow tubercules on its elbows and delicate yellow streaks and spots in the flexures of the hips and popliteal spaces, exactly such as we are familiar with in connection with jaundice in the adult, and with jaundice alone, we at first seek for more evidence of disease of the liver. But if we find similar conditions produced at about the same age in two or three members of the same family, and the same series of events happening in more than one family, we again, as in the case of ichthyosis, cease our search for any of the ordinary causes of disease, and fall back upon the hypothesis of what I have ventured to term structural idiosycrasy. We feel sure that the skin of the parts affected must have been at birth in a state of peculiarity, although we failed to be able to prove it. It is, of course, possible that the congenital peculiarity was not in the skin alone. It may have been in the blood also; but if we observe in the subsequent life of the patient that the peculiar conditions remain restricted to the parts first affected, that they have no aggressive power, and that the general health of the individual does not suffer in the least, our first impression as to the idiosyncrasy being purely one of local structure becomes revived and strengthened. I am very anxious to make clear the argument that congenital structural peculiarity may entail liability to local disease, and that that disease may be locally aggressive—at any rate, for a certain time, perhaps indefinitely—becsuse I think it is one which may, perhaps, explain a large class of pathological facts, which are of a far less definite character than those to which we have just referred. Let us use ichthyosis and xanthalasma of young children as definite and palpable illustrations of what is possible, although admittedly very rare, and guided by the light which we obtain from their investigation, let us examine the facts as to some other much less definite maladies. In the condition known as molluscum fibrosum, little tumors—possibly fibro-cellular, possibly glandular—develop in or under the skin. Usually there are very few of them, and examples of the malady, when only two, three or half-a-dozen are present, are very common. In rare cases, however, the surface is affected, and the tumors may be counted by hundreds, or even thousands. The tendency to their production may be noticed for the first time at almost any period of life, but if they are to be numerous, it begins almost invariably in early childhood. Whether there be many or whether there be few, the general health remains good, and there is no evidence whatever of any correlative tendency to general disease. Is it not very probable that the liability to molluscum fibrosum is inbred in the original development of the integument, that we are witnessing the results of an idiosyncrasy of structure? Let us see how the matter stands as regards common psoriasis. In this instance we have no new growth of tumors, but, only a tendency on the part of special regions of the skin, possible of almost the whole of it, to take in a certain peculiar type of chronic inflammation. This tendency occurs in its best marked forms and most frequently to young persons, although, let us note, it is never congenital, and never even infantile. It is never associated with anything that we can appreciate, as ill-health, and the facts with which we are acquainted as regards the conditions which may influence it for the worse, are few and insignificant. Excepting so far as it may be supposed to act by interfering with the functions of the skin, it does not produce any derangement of the patient's health. It is hereditary, but not prone to prevail in single families. Is it not probable that a disease, of which these statements are true, is one not originally or wholly due either to the blood or to the nervous system, but in large, and chief part, to an idiosyncrasy in the structure of the skin? In proportion as the disease is late in development —in other words, in proportion as we find it apparently waiting for the exciting influence to assert its birth—may we assume the probability that the idiosyncrasy is less strong. The explanation of the entire absence of psoriasis in infancy and early childhood may possibly be found in the suggestion that when the structural idiosyncrasy is very strong it manifests itself in a different form. Thus I think it not improbable that ichthyosis of infants may be in this way the representative of the psoriasis tendency in its intensest form. I must not weary you in arguing the case in reference to other diseases of the skin, or of other parts, but simply state that whenever we find a strictly local malady which developes itself in all instances with little or no apparent cause, is hereditary, is but little aggressive, and only in a sort of accidental way influences the health of its subject, we are entitled to suspect structural idiosyncrasy. Steatomata on the scalp, lipomata, adenomatous tumors in the breast, multiple uterine fibroids, milium, whether on the face or elsewhere, and hosts of others, are probably examples of what I have tried to describe. From these it needs but little ingenuity to preceive that it is only a matter of degree if we should pass to the development of new growths, in general both malignant and innocent, and to many disorders which do not fit at all exactly with the description which I have given and concerning which we can say a good deal as to our knowledge of their exciting causes. In a multitude of these, hereditary but wholly latent peculiarity of structure may not improbably take its share in the production of the special result. They are examples of what may be termed complicated or conditional idiosyncrasy.

(To be continued.)

SPONTANEOUS GANGRENE OF THE SKIN.—Professor Neumann, (*Wien. Med. Zeitung*,) reported to the Royal Society of Physicians of Vienna at the meeting held on May 12th a case of spontaneous gangrene of the skin. He characterized it as among the rarities in the annals of Medicine, if, indeed, it was not unique. Cases of the disease had been published by Nilson, Bjering, Bruniche, Bull, Dujardin Faure, and particularly Raynaud, Englisch, and very recently Weiss, of Prague; but in all these cases prodromal symptoms had been observed, affections of the central nervous symptoms had preceded, and the gangrene had developed gradually within the space of a few days. Prof. Neumann's case, on the other hand, had not its centre of interest in the distribution of the gangrene, but in the acuity of the onset of the affection. The subject of the disease was a girl, 18 years of age, anæmic, with scanty menstruation. She suffered in childhood from scrofula, and several years ago underwent an operation for a cavernous tumor on the sole of the foot.

The present illness, dated from Oct. 15th, 1881. The first gangrenous spots showed themselves in the hollow of the hand, and ranged in size from a grain of linseed to a "silbergroschen" and were seven in number. Hereupon efflorescences, the size of a thaler, made their appearance, on the left sterno-clavicular articulation, then on the manubrium sterni, and on the external curvature of the clavicle, and in this region nine gangrenous patches of almost equal size were visible. Then both forearms became affected, and upon the external surfaces, in the following order: first came four patches on the left arm, then three on the right, one on the left, two on the right, one on the left, one on the right, and finally (May 12th), two more, the size of a thaler, below the left patella. The appearances under which the sloughing took place changed; but a burning sensation lasting from five to ten minutes was always said to be present; the skin over a circumscribed spot became reddened, somewhat elevated, and the temperature was raised. These patches gradually separated from the healthy skin, and it was noted that the skin gradually changed its color from the circumference to the centre, that the former looked brown, and the latter a dull white. By this time sensation was gone at the periphery, but was retained at the centre for about half-an-hour, to disappear, however, completely as soon as the cutis had become completely changed. During these changes it was observed that a serous fluid was exuded in the neighborhood, so that from some of the patches, ray-like prolongations shot out, not unlike those seen on the skin of people who have been struck by lightning. The slough was separated in from ten to fourteen days by quickly growing granulations. On two sloughs which had been early removed by scissors, microscopic examination revealed the unchanged panniculus adiposus, as well as the dilated veins of the subcutaneous connective tissue.

Professor Neumann confessed himself unable to state the cause of the disease; he thought that it was plainly something in which the vaso-motor nerves played a part.

Docent Dr. N. Weiss thought Professor Neumann's case was probably one of disease of the peripheral nerves.

Professor Billroth (President) said he had an impression that the sloughs were works of art. The disease might be called a mental one, that drove the girl to practise this deception on the physicians. The diseased parts looked as if they had been touched with caustic potash. The case had not the slightest likeness of those related by Raynaud. There the patients were delicate, anæmic French women, who had exceedingly fine blood-vessels, in whom, finally, the circulation ceased at the finger tips, the integument of which first became bluish, and then died. If healing took place, the granulations were pale and flabby, and months elapsed before cicatrisation took place. In the case before the meeting, on the contrary, the patient was a thoroughly well-nourished and powerful girl. The spots said to be spontaneously attacked did not correspond either to the course of a nerve or of a blood-vessel; the granulations, after the throwing off of the slough, were splendid, for sloughs caused by caustics, most characteristic. And how could it be explained that behind the very pieces of cutis that had died for want of nourishment the healing process was so vigorous? Unless there was something miraculous about it, and he (Professor Billroth) was no believer in miracles, the case was absolutely inexplicable. On the other hand, it was only too well known what hysterical women will do to make themselves objects of interest—how they will swallow needles, or stick them in anywhere, or do something or other to themselves that causes great pain. The first thing to do was to ascertain whether any deception on the part of the girl was at the bottom of it.

Professor Neumann energetically opposed the view of the last speaker; he had expressly said that had *observed* the case; he had designated the case as unique, and could not believe there was any deception about it—it was a disease.

Professor Billroth could only repeat the words of his teacher Romberg: "Never believe women, even if they seem to be dead." (*Glauben Sie nie den Frauen, auch wenn sie todt zu sein scheinen.*)

It was then agreed to refer the slough to Professor Ludwig for chemical examination.-*Med. Press.*

RESECTION OF THE PYLORUS IN ITALY.—This operation has just been performed for the first time in Italy by Professor Caselli, of the University of Genoa. The patient was a female, who had been admitted to the hospital with symptoms which pointed to closure of the pyloric orifice of the stomach by a neoplasm presumably of a carcinomatous nature. In the operation itself there was no feature of particular interest, except the severe shock from which the patient suffered almost from the first incision. The time occupied was two hours and a half. To secure the stomach to the duodenum, and to sew up the organ itself about fifty sutures were employed. The portion excised was elliptical in form, and measured four inches and a half in length by three and three-quarters in breadth. The operation itself, in all its details, was successfully completed; but the patient unfortunately sank from shock a few hours after her removal to the ward. The necropsy confirmed in every respect the correctness of the diagnosis, and showed, moreover, that all the other viscera were perfectly free from cancerous infiltrations. The operation, therefore, was a thoroughly legitimate one. Moreover, from the excellent position in which the stomach and duodeum were found after death, there is little doubt that, had the patient's vital powers held out, the result would have been a most brilliant one.

LIGATION OF UMBILICAL CORD. — Professor Lusk in his new work on Obstetrics, after discussing the question for and against the ligation of the umbilical cord prior to cessation of pulsation, draws the following practical observations:

1. "The cord should not be tied until the child has breathed vigorously a few times. When there is no occasion for haste arising out of the condition of the mother, it is safer to wait until pulsations of the cord have ceased altogether.

2. "Late ligation is not dangerous to the child. From the excess of blood contained in the fetal portion of the placenta, the child recieves into its system only the amount requisite to supply the needs created by the opening of the pulmonary circulation.

3. "Until further observations have been made, the practice of employing uterine expression previous to tying the cord is questionable.

4. "In children born pale and anæmic, suffering at birth from syncope, late ligation furnishes an invaluable means of restoring the equilibrium of the fetal circulation."

In view of the present practice of immediate ligation these conclusions are pertinent.

EPITHELIOMA REMOVED BY SCRAPING.—At a recent meeting of the Clinical Society of London (*Medical Times and Gazette*), Mr. T. Holmes related a case of a young man suffering from an ulcer of the leg, which presented all the appearances of epitheloma, both to the naked eye and under the microcrope. It was very large, almost isolating the tendo-achillis, and was accompanied by swelling of the inguinal glands. Mr. Holmes considered that in former times these symptoms would have been considered sufficient to warrant amputation. In this case he removed all the epitheliomatous tissue, and then made a free application of the actual cautery. Sound cicatrization ensued and the enlarged glands subsided entirely. Many other gentlemen related their experience in this matter, which was all corroborative of Mr. Holmes', who closed by saying, he suspected that many growths originally local tended to become epitheliomatous and constitutional in type. His case certainly corresponded to the ordinary descriptions of epithelioma, and he would urge that such cases, if early treated, might result in the extirpation of a disease rapidly becoming malignant.—*Med. and Surg. Reporter.*

ABSORPTION OF SEQUESTRA.—M. Vrignal has lately made a series of experiments on the absorption of sequestra. He has determined that a sequestrum covered with pus will not be absorbed, whilst one enveloped in granulations will be. A fragment of bone (a bone peg) being driven into the tibia of a rabbit was almost entirely absorbed.—*Gaz. des Hopitaux.*—*St. Louis Medical and Surgical Journal.*

THE CINCINNATI

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, July 22d, 1882.

Miscellany.

AMERICAN MEDICAL ASSOCIATION.—The Committee of Publication have adopted the following rules, to ensure promptness in the appearance of the forthcoming volume of Transactions (Volume 33):

1. All addresses and papers read at the recent meeting of the Association, and referred to the Committee of Publication, must be in the hands of the Permanent Secretary before July 31st.

2. The Transactions will absolutely go to press August 5th, and all papers or addresses entitled to appear in the volume, not received by July 31, cannot be inserted.

3. Under no circumstances will the Committee permit new material, different from that in the original manuscript, to be added to the proof-sheets.

4. The Secretary is instructed to send copies of these resolutions to the various medical journals, and to have extra copies struck off, to forward to the contributors of papers to the annual volume.

The following provisions of the By-Laws of the Association will be strictly enforced:

"Every paper received by this Association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association."

"Authors of papers are required to return their proofs within two weeks after their reception; otherwise they will be passed over and omitted from the volume.

RICHARD J. DUNGLISON, Treasurer,
Secretary Committee of Publication.

TRI-STATE MEDICAL SOCIETY.—The next annual meeting of the Society will be held in Terre Haute the last week in September, 1882. You are respectfully invited to be present, and if you have a paper to present, please report it to me, or to Dr. Wm. Porter, St. Louis, Mo., prior to July 15th. Papers are limited to twenty-five minutes, and those on subjects of personal observation are preferred.

The object desired by this Society is the benefit of the practicing physician. Its meetings are mainly clinical in their work. No legislation, nor constitution and by-laws discussed, and no banqueting or public entertainments accepted. The entire time and interest of the meetings is occupied in reading and discussing papers. Come and bring your friend to the Practitioners' Clinical Society. Information as to hotel and railroad rates will be furnished with programme.

JOHN E. LINK, M. D., Chairman Committee.

AMMONIA—ITS USE AND IMPORTANCE AS A BREAD RAISER.—The recent discoveries in science and chemistry are fast revolutionizing our daily domestic economies. Old methods are giving way to the light of modern invention, and the habits and methods of our fathers and mothers are stepping down and out, to be succeeded by the new ideas, with marvelous rapidity. In no department of science, however, have more rapid strides been made than in its relations to the preparation and preservation of human food. Scientists, having discovered how to traverse space, furnish heat, and beat time itself, by the application of natural forces, and to do a hundred other things promotive of the comfort and happiness of human kind, are naturally turning their attention to the development of other agencies and powers that shall add to the years during which man may enjoy the blessings set before him. Among the recent discoveries in this direction, none is more important than the uses to which common ammonia can be properly put as a leavening agent, and which indicate that this familiar salt is hereafter to perform an active part in the preparation of our daily food. The carbonate of ammonia is an exceedingly volatile substance. Place a small portion of it upon a knife and hold over a flame, and it will almost immediately be entirely developed into gas and pass off into air. The gas thus formed is a simple composition of nitrogen and hydrogen.

No residue is left from the ammonia. This gives it its superiority as a leavening power over soda and cream of tartar when used alone, and has induced its use as a supplement to these articles. A small quantity of ammonia in the dough is effective in producing bread that will be lighter, sweeter, and more wholesome than that risen by any other leavening agent. When it is acted upon by the heat of baking the leavening gas that raises the dough is liberated. In this act it uses itself up, as it were; the ammonia is entirely diffused, leaving no trace of residium whatever. The light, fluffy, flaky appearance, so desirable in biscuits, etc., and so sought after by professional cooks, is said to be imparted to them only by the use of this agent.

The bakers and baking powder manufacturers producing the finest goods have been quick to avail themselves of this useful discovery, and the handsomest and best bread and cake are now largely risen by the aid of ammonia, combined of course with other leavening material.

Ammonia is one of the best known products of the laboratory. If, as seems to be justly claimed for it, the application of its properties to the purposes of cooking, results in giving us lighter and more wholesome bread, biscuit, and cake, it will prove a boon to dyspeptic humanity, and will speedily force itself into general use in the new field to weich science has assigned it.—*Scientific American.*

HORSFORDS ACIE PHOSPHATE.—Dr. W. U. Parmelee, of Toledo, Ohio, says of this preparation.

"I have prescribed the "acid" in a large variety of diseases, and have been amply satisfied that it is a valuable addition to our list of medicinal agents; I have found it acting more kindly in aged persons than elsewhere."

IN the *North American Review* for August, Archibald Forbes, the well-known British military correspondent, writes of the "United States Army," dwelling more particularly on those features of our army management which appear to him to be most worthy of imitation by the military governments of Europe. "Woman's Work and Woman's Wages," by Charles W. Elliot, is a forcible statement of one of the most urgent problems of our time. The author sees no advantage to be derived from the employment of woman in man's work, whether of brain or of hand; such employment, he insists, only reduces man's wages, and does not really add to the total resources of the whole class of workers. "The Remuneration of Public Servants," by Frank D. Y. Carpenter, gives matter for serious consideration, both to the civil service reformers and their opponents. Finally, there is a paper on "Artesian Wells upon the Great Plains," by Dr. C. A. White, of the Smithsonian Institution. The *Review* is sold by booksells geuerally.

AN AUTOMATIC REPORTER.—The following particulars of a machine called the "glossograph," invented by Herr A. Gentilli, have appeared in several newspapers: "The instrument consists of an ingenious combination of delicate levers and blades, which, placed upon the tongue and lips, and under the nostrils of the speaker, are vibrated by the movements of the former and the breath flowing from the latter. The vibration is transmitted to pencils, which transcribe the several signs produced by the action of the tongue and lips and the breath from the nostrils, upon a strip of paper moved by a mechanical arrangement. As in shorthand, a special system of writing which may fitly be termed glossograpy, is produced, based upon the principle of syllabic construction and combination of consonants. It is said to be especially suitable for those languages the ortography of which differs least from the phonetic record of the apparatus. The instrument is self-acting in the fullest sense. Moreover, its application involves as little fatigue to the speaker as severe attention on the part of the person transcribing. In reporting proceedings in Parliament or courts of law it is not necessary that the speaker should use the apparatus himself. Anybody may articulate it by repeating in a low voice the words of the speaker, which is sufficient for recording the signs."

THE "Brunelli process" of embalming is as follows: 1. The circulatory system is cleansed by washing with cold water till it issues quite clear from the body. This may occupy from two to five hours. 2. Alcohol is injected so as to abstract as much water as possible. This occupies about a quarter of an hour. 3. Ether is then injected to abstract the fatty matter. This occupies from one to twenty hours. 4. A strong solution of tannin is then injected. This occupies for imbibition from two to ten hours. 5. A warm current of air passed over heated chloride of calcium is now made to dry the body. This may occupy from two to five hours.—*Detroit Lancet.*

PROF. WAGNER, of Leipsic, has been fined for calling homœopathy a swindle. The amount of the fine was $12.—*Detroit Lancet*

Obituary.

DR. NATHANIEL FOSTER.

"FOSTER.—On Sunday, July 16th, at 11 p.m., Nathaniel Foster, M.D."

These few words announced the end of a useful life and the close of a successful medical career of more than forty years. It is fitting that while the loss is yet fresh, and before the lessons of his career are obscured in the common oblivion of the grave, that a record of his life should be made and thus preserve for those who remain an example which offers much that is worthy of emulation.

Nathaniel Foster was born at Newbliss, County Managhan, in the north of Ireland, August 31st, 1818. He was the son of Benjamin F. Foster, an officer of the English army, and Elizabeth Morehead, the sister of Dr. John Morehead, who for thirty years was connected with the medical profession of Cincinnati and who occupied a prominent position as teacher in the early days of the Medical College of Ohio. His father died when he was quite young and he was sent to school to a Mr. Blakely, a celebrated Presbyterian clergyman. In 1833 his mother came to Cincinnati to visit her brother and brought the subject of this sketch with her. Dr. Morehead was then already well established in a successful practice, and through his influence and advice, on returning home, Mrs. Foster was induced to leave her son, who thus became an inmate of his uncle's household. This association produced so marked an influence on the career and views of Dr. Foster that a few of the important facts in Dr. Morehead's life will not be out of place.

Dr. John Morehead received his medical education at Edinburgh, and came to Cincinnati in 1820. His ability, learning and energy of character soon earned for him a prominent place in the profession and he very soon became connected with the Medical College of Ohio, a connection which continued until he finally returned to Ireland to enjoy a large property which he had inherited. The variety and extent of his acquirements are shown by the various positions he occupied at different times. In 1824 he first joined the College and became Professor of Materia Medica and Obstetrics. The following year he was transferred to the chair of Theory and Practice, which he held until 1832, when he was assigned to the chair of Obstetrics and Diseases of Women and Children, and continued to lecture on this subject until 1840, when he went to Ireland, but returned in 1842 and was again appointed Professor of Theory and Practice. In 1849 his father died and he severed his connection finally with the college, and returned to occupy the extensive property which he had inherited, and on which he continued to live until the time of his death, Oct. 8th, 1873. (Drury).

For several years before leaving Cincinnati Dr. Morehead went every year to Ireland and only returned for his winter lectures. He was a man of strong character, decided views and always took a prominent part in all the professional controversies of his time. He must have strongly impressed all those who came in contact with him, for many of the old practitioners even now after the lapse of many years readily recall his peculiarities and characteristics and as often testify to his extensive learning and distinguished ability as a teacher, and his strength of character and integrity as a man. Dr. Morehead built the house now standing on the northeast corner of Third and Broadway, and had his office in the basement, which has now been occupied continuously by doctor's offices for more than fifty years. At the time it was built and for many years afterwards it was in the midst of the busiest part of the city. The Broadway Hotel and subsequently the Spencer House and the landing at the foot of Broadway made this one of the most desirable localities in the whole town, and for many years there were never less than from ten to a dozen doctor's offices within a quarter of a square. Indeed, it was generally known as the "Doctor's Corner." Among the names associated with the "Doctor's Corner" are found John and Robert Morehead, Landon Reeves and his two sons Edward and Landon, jr., Strader, Foster, A. S. Dandridge, Tate, Carson, Dawson, Greenleaf, Marshall, the two Malones, Cohen, Hentz, Duke Bainbridge, Follin, Rosenfeldt, McIlvaine, Minor, Haile, Kemper and quite a number of others. Indeed, probably, no other quarter of the city of equal extent can show a like number of names of physicians who have had their offices in the vicinity in the last fifty years.

Before leaving this part of our sketch we may say that the statement that Dr. Morehead was knighted is a mistake. He never held a baronetcy and Dr. Foster did not inherit a title as has been stated. This is given upon the best possible living authority, and its accuracy cannot be questioned.

Foster first attended Kinmont's school. Kinmont was a one-armed Scotchman and kept a school on the southwest corner of Race and Longworth streets, and it was here that many among the old prominent citizens received their first lessons in the classics; this teacher was considered as being well versed in Greek and Latin and his pupils were supposed to enjoy especial advantages. In 1835 Foster matriculated at the Medical College of Ohio, and his name is found on the books for three sessions. He graduated in 1838, the names on his diploma are Morehead, Locke, Shottwell, Wright, Kirtland, and Mussey. Dr. Morehead was opposed to his commencing to practice so young, but he was determined and started out for himself some miles from town near the Little Miami River, the exact locality I have not been able to ascertain. He staid here for from six months to a year and it was here that he contracted the trouble with his eyes which afflicted him more or less during his after life. After his return from the country he went to Europe and spent about six months in the hospitals in Dublin. Whether this trip was undertaken at once or only after a year or two of practice I have not been able to ascertain. His first office in town was next to the corner of Third and Broadway, in a small house, which has been used almost continuously since as a doctor's office.

After Dr. Morehead returned to Europe much of his business fell into Dr. Foster's hands, and for many years he was one of the busiest practitioners in the whole city. He occupied the same office for nearly forty years, and clung most tenaciously to it and its association, refusing to change, though the changes brought by the passing years have very greatly affected the value of the "Doctor's Corner" as a place of business. It was here in this old office that the writer of this sketch first remembers the Doctor, and here for many years he was always a prominent figure in a coterie of men who were all prominent and active in the profession. The lapse of years has not dimmed the recollection of his quick, impulsive, cheery manner, and of the many acts of thoughtful and considerate kindness received at his hand.

In 1853 he married Josephine Lytle and at his death left three children, two daughters and one son. His oldest son died some years ago. The long years of Dr. Foster's active professional life were passed in unbroken prosperity and success, which enabled him to provide abundantly for his family during his life and leave them with the assurance that they were amply protected from want after his death. Following the advice of Dr. Morehead, to avoid such professional controversies as he himself had often been involved in during the existence of the old Cincinnati Medical College and the Medico-Chirurgical Society, he never connected himself with any of the medical colleges, and though a member of various societies he never took an active part in their proceedings, and was, so far as I can learn, never formally attached to any of the hospitals.

He was always engaged in general practice. Early in his life he showed especial fondness and great aptitude for surgery, and performed many of the important operations. Later, however, owing to the trouble with his eyes, and probably, also, to the greater demand of his general business, he gradually gave it up, and devoted his attention to his general family practice, which for many years was one of the largest and most profitable in the whole city. He was indefatigable in his business, seldom taking a holiday, and never allowing social enjoyment of any kind to interfere with his work. In all of the great epidemics which occurred during his time, he continued at his post, and his devotion once nearly cost him his life. In 1852 he was attacked with the cholera, and was so ill that for a time it was thought that he would not recover—indeed, the report of his death was generally circulated, and an obituary notice actually appeared in one of the daily papers. Throughout life he enjoyed a more than usually vigorous constitution, and accomplished an amount of work such as few would have been able to perform. Several years ago he suffered a severe illness which obliged him to go to the seashore, when his restored powers enabled him, in a few weeks, to recuperate so as to return and resume his work. Since then, however, he suffered severely with neuralgic pains, especially about the head, and never again displayed the old-time vigour and energy; and, although he continued at work, his friends recognized the fact that his health was seriously, and probably permanently impaired; and so it proved.

The illness which terminated his life began June 27th. He had been visiting a patient, and had just descended from the third story of a house when he suddenly felt a strange sensation in his left arm, and found that it was with difficulty he could use it. He managed to get into his buggy, however, and drove to his office. The difficulty in the arm continued, and in the afternoon he asked Dr. Haile to apply electricity to it. Later in the day his speech became somewhat indistinct, and it was with difficulty that he could make himself understood. His gait was somewhat unsteady. He walked home alone, however, and went to bed as usual without telling the family of the trouble in his arm. Dr. Haile alarmed at the character of his symptoms, which were apparently intensifying, reported the Doctor's condition to some professional friends, by whose advice the family were notified of what had occurred and advised to keep a watch to see that further trouble did not develop during the night. Before bed time the Doctor called his daughter to his room, and told her that he had fallen in in trying to get into bed, but was assisted by his son. His utterance was indistinct, and it was with some difficulty that he expressed himself so as to be understood. Greatly alarmed she sent for professional assistance which arrived about eleven o'clock. The Doctor was lying quietly in bed, his mind had become apparently quite clear, and he answered questions distinctly though somewhat slowly. He appreciated his condition and gave a succinct account of what had occurred during the day, and mentioned an attack which he had some years before, in which there had been suddenly developed difficulty in articulation, which had lasted for a short time. The left arm he could lift, but with difficulty, and was also able to make slight pressure with the hand. The leg he could also move.

He was quite free from excitement, and expressed himself as feeling comfortable. He slept quietly during the night, by morning paralysis of motion in both arm and leg was well nigh complete, slight motion with the forefinger and thumb alone remained; this was lost during the day.

The tongue was protruded without deviation, and facial paralysis, if present, was so slight as to be scarcely appreciable. Sensation was still present. The thermometer showed the temperature to be normal. During the day he became somewhat emotional at the thought of being helpless. For the first few days it was hoped that recovery might follow, with a more or less complete subsidence of the paralysis. The onset had been very gradual, and the height of the paralysis had not been reached for some hours, sensation and consciousness were sustained and every thing served to indicate that the lesion must have afflicted only a limited area. The character of the symptoms all seemed to point to the gradual blocking of some vessel by a thrombus. This view reconciles itself with the conditions existing before the attack, which indicated the existence of degenerative changes in the vessels and the brain, and also conforms to the subsequent course of the case, to slow progressive failure dependent upon a slowly extending secondary softening. For several days the conditions seemed stationary, involuntary twitching in the paralysed leg at times caused some annoyance, and once or twice complained of pain. There was at times a good deal of restlessness, and frequent manifestations of emotion when his family were about his bed, with a disposition to wander, from which, however, he was easily aroused and answered questions about his condition intelligently. It was with difficulty at times that he could be made to recognize his surroundings, and frequently imagined that he was in a strange room in some hotel. He continued to take nourishment and the failure came very slowly, the loss from day to day being almost imperceptible. Intelligence waned more and more and finally became extinct, the power of deglutition was more and more difficult and was finally altogether lost, and for forty-eight hours before death all evidence of consciousness was gone and the slowly failing respiration and the flickering pulse alone indicated that life was not yet quite exhausted. Thus the end came nearly three weeks after the first attack, without a struggle, and so quietly and peacefully that those about his bed hardly knew the moment in which the spirit had taken its flight.

TRIBUTE TO HIS MEMORY FROM THE PHYSICIANS OF CINCINNATI.

The medical profession of Cinninnati met at the Lancet Hall, 201 and 203 West Seventh street, July 18, at 4 o'clock, to take action on the death of Dr. Nathaniel Foster. Dr. John H. Tate was chosen to preside over the meeting, and Dr. Wm. Judkins, Secretary.

Dr. Tate opened the meeting by stating its object. Those present were aware of the circumstances which had brought them together. A man widely known, an able practitioner had been suddenly taken away from the community. It was but meet that they should pay a tribute of regard to his memory.

On motion of Dr. N. P. Dandridge Drs. David Judkins, C. G. Comegys, and Andrew Kemper were appointed a committee to draft resolutions for the occasion. While these were being prepared several of the physicians present spoke their sentiments in regard to the deceased.

Dr. C. O. Wright said that he had known Dr. Foster as a genial gentleman, a conscientious physician, and an earnest Christian. He had his eccentricities, but he was a strong character of the most decided convictions. His nobility of mind had never been shown to better advantage than when he declined a baronet's title for the sake of remaining an American citizen.

Dr. John Davis declared that he had known the deceased for many years. He had made his acquaintance first at the Cincinnati Hospital in 1842. If he had faults he had never seen them. He was a gentleman, affable and truly kindhearted. He centered his interest in the poor as well as the rich, and bestowed his attention on all patients alike, irrespective of remuneration. He was highly intelligent and cultured, and ranked among the very best of the profession. In looking back over his life, he came to the conclusion that it contained the consolation of being well spent, and that it had accomplished a full amount of work. His death had been a loss to the profession and to the city, which loss could only be commensurate with the lofty character of the man of whom they had been bereaved.

Dr. E. Williams stated that he had received a letter of introduction to Dr. Foster in 1852, and had always found him a fast friend. His death reminded him that the last mourner would be soon here to regret the death of all the older physicians of the profession. He was a man who often stood in his own light. He was too exclusively devoted to the practice of his profession. He did not cultivate outside society, and when he grew old, and found a good deal of his practice departing into the hands of younger physicians, he felt lonely, and cultivated more rigidly solitude. It had been through good nature that he remained with his patients, instead of enjoying a season of recreation. He was a noble and glorious man, and it was a consolation to him to belong to a profession which could be honored by such a man.

The Committe on Resolutions having returned, Dr. David Judkins read the following, signed by the names of the committee and of the officers of the meeting:

Dr. Nathaniel Foster, an honored and useful member of the regular medical profession, has been taken from his work to his reward. Dr. Foster has been actively engaged in the practice of medicine in this city for about forty years, and during all this service his conduct as a gentleman has been thoroughly maintained. He loved his work, and while possessed in an eminent degree of strong social character, with frank and genial manners, he never permitted these to interfere with the sick and suffering in his charge. In his intercourse with his professional brethren he was governed by and acted in accordance with the principles of an intelligent manhood, blended with which was that real courtesy of the cultured physician. Dr. Foster was not prominent in the more showy phases of medicine, he was not ambitious of professional honors; had no craving for the fame that is thus acquired; his field was the sick room, and it was here that he had prominence; it was in this connection that he showed more than ordinary ability; to this he applied all his powers, reaping honorable success in life and leaving behind him an unsullied name. Dr. Foster was a Christian, a full believer in the doctrines of the Christian religion. He acted well his part in the battle of life, and in his death we recognize a loss to our profession, while we bow in submission to the will of God.

Resolved, That we will attend the funeral services, and that a copy of this preamble and accompanying resolutions, signed by the officers of the meeting be sent to the family of our deceased friend, and that a copy similarly signed be sent to the press for publication.

After the reading of these resolutions other tributes of respect were paid to the family of the deceased.

Dr. Tate said that for forty years he had been a neighbor of Dr. Foster, both he and the latter living at the corner of Third and Broadway, and, although their practice was devoted to the same specialties, he had never had any occasion of considering Dr. Foster other than a high-minded, cultured gentleman. His liberality had been demonstrated in many ways. He had a valuable library, and it became the common property of his brother physicians, who often used his books for consultation. He was not only attentive to the wants of his patients, but he treated them all alike, irrespective of remuneration. His was a capacious intellect, a perspicuous mind, and he followed up the duties of his profession with assiduity, being a constant and close student. An instance of his liberality was when he left to his sister his portion of the paternal estate. Poor families he had never charged a cent for services performed. He had some very peculiar notions. One was a very just one—that the most good could be done by attending strictly to one's own business. His success in life, perhaps, could have been measured by the application of this principle. His success was in the quiet, unostentatious walks of industry, and he left behind an honorable name.

Dr. David Judkins read a communication from Dr. Wm. H. Mussey. He characterizes the deceased as a manly man, exact in his duties almost to a fault. He had formed strong friendships; and, once a friend, he was thoroughly reliable. The Doctor's life had been a lesson to all.

Dr. N. P. Dandridge stated that he knew deceased from the days of his childhood, and he could bear testimony to the truth of the sentiments expressed.

Dr. Haile had known him intimately. He had been particularly friendly to the younger members of the profession, and had assisted them all in his power. He had lost in him one of his dearest friends, almost a father.

Dr. Kemper said the deceased had been the physician of his father's family since 1849. In 1850 he, himself, had been put under the medical care of Dr. Foster, and he firmly believed he owed his life to his care and skill. No one could have been better acquainted with the different phases of medical progress than the deceased. He had met the Doctor a day before he was taken ill, who said to him: "I am going, and I know it, and it will not be long; and when it comes I will meet it as best I can."

Dr. Kearney also paid his tribute of respect to the memory of the deceased.

The pallbearers at the funeral were, with the exception of one, taken from the ranks of the medical profession. It took place from his late residence, 66 Lawrence street, at 3:30 p.m. on the 20th inst.

DR. MILO ADAMS WILSON.

At Denver, Colorado, on Wednesday, July 5th, Milo A. Wilson, aged thirty-seven years. Dr. Wilson was born in Pittsburg in 1845, and was a son of Dr. R. A. Wilson and brother of the late Oregon Wilson, the artist.

In 1864 Dr. Wilson settled in Cincinnati, having previously attended two courses of lectures at Bellevue Medical College, New York, and entered the Ohio Medical College, from which institution he graduated in the spring of 1866. During the year 1866 Dr. Wilson served as one of the internes at St. John's Hospital.

"Ad.", as he was familiarly called, won hosts of friends in Cincinnati. Gentle, modest and of a retiring nature, he soon gathered about him a select coterie of kindred spirits. During his term at St. John's Hospital he organized what was known as the first "Cincinnati Orchestra." This musical organization was composed wholly of amateurs, many of whom afterwards became and still continue to be, the leading professionals of the West. Bush, Foley, Victor Flechter, Schneider, Menter and Singer, now of Boston, were among the principal performers of this organization. No better performer on the violin, in an amateur way, ever lived in Cincinnati; in fact among professional musicians he was regarded as a phenomenal player, and his services were always in demand when concerts were given. On such occasions he usually appeared under an assumed name, as he feared the reputation of a musician might injure his future medical prospects.

In 1867 Dr. Wilson left Cincinnati for Europe and pursued his medical studies at Paris and in Vienna. All American students residing in the former city at that time will remember the cosy and hospitable quarters of "Ad" on the "*Rue Cadet.*" His rooms being the center of attraction for a large circle of distinguished French artists and musicians.

In 1869 Dr. Wilson opened an office on 29th street, near 5th Avenue, New York City, here he soon entered into a large practice, his *clientele* being principally composed of leading musicians and theatrical stars. Decidedly Bohemian in all his tastes and tendencies he soon became a universal favorite among that class of the community. Fortune smiled on the genial and sunshiny physician and in the year 1873 he forsook bachelorhood and married the daughter of one of the most prominent and aristocratic families of Brooklyn Heights. After his marriage his practice rapidly increased and he was soon appointed one of the medical staff of Bellevue Hospital and likewise Surgeon to the famous New York Seventh Regiment. In the winter of 1879 Dr. Wilson suffered from a severe attack of double pneumonia, from the effects of exposure and overwork, and in 1880 left his business in New York and went to Colorado in order to recruit his health. Here his life gradually faded away and he entered into eternal rest on the morning of July 5th.

Dr, Milo Adams Wilson was a devoted student in his profession and will be best remembered, in this connection, with a series of experiments made at Blackwell's and Randall's Island, New York, the "Effects of Music on the Insane." These experiments were entirely original and attracted much attention at the time they were undertaken. Warm and true in his friendships, tender-hearted, gentle and affectionate, "Ad" will long be remembered by his former acquaintances here, who, like Saint Ambrose on the death of his brother, may well exclaim in the bitterness of sorrow: "*An ego possum non cogitare de te, aut sine lachrymas cogitare?*"

Kind friend! lover of nature and good fellowship. *Vale! Vale!*

Under the love light of the stars eternal,
  Rest in peace;
Lulled by the ocean's symphony, whose music
  Shall never cease.
The midnight zephyrs moan a requiem
  Above thy head,
Loved, lost musician and sweet singer,
  Peace to the dead!

Dawn comes to all. Across the Eastern waters
  The light will break,
The birds will carol. In the rosy morning
  The world will wake.
So sunrise comes to thee, O, happy dreamer!
  Rise from thy rest!
Life's voyage ended, cast thy anchor,
  Among the sacred Islands of the Blest.

T.C.M.

Original Communications.

CHRONIC CYSTITIS OF TEN YEAR'S DURATION, FOLLOWING STRICTURE, CURED BY ONE INJECTION OF SOLUTION OF NITRATE OF SILVER (℈i to ℥i).

By W. E. Shaw, M.D., Cincinnati, O.

I made my first professional visit to Wm. M— June 23d, 1881. He was a squarely built man, thirty-five years of age, and weighed about 180 pounds. His family history is good, and with the exception of his present trouble, he remembers of being sick but once, with pneumonia, at about the age of fifteen, from which he fully recovered. About ten years ago he began to complain of a too frequent urination followed by pain. There was also a progressive decrease in the size and force of the stream. He gradually grew worse, but as he did not "pay much attention to trifles" (to use his own words), he was not forced to consult a physician until about five years ago. The doctor, he says, caused him so much pain by attempting to introduce an instrument into the urethra, that he resolved never to consult one again. After this attempted catheterization he lost blood from the urethra in considerable quantities at intervals for two or three months, but subsequently he has passed none; but his urination became more difficult as well as more frequent and followed by more pain. At the time he consulted me he estimated that he had for months passed urine on an average of forty times in twenty-four hours, each effort being followed by most severe vesical tenesmus. After considerable straining he succeeded in passing his urine in my presence. For about two minutes his suffering was agonizing. Frequently after most violent efforts he was unable to pass a drop. On several occasions, during the first half of 1881, he was unable to pass a stream for several days at a time. The intense suffering, loss of sleep, etc., were telling upon his rugged constitution and he was driven, although much against his inclination, to seek the advice of a physician again. He strongly denied ever having had gonorrhœa, although he has the reputation of having had in former years quite a weakness for wine and women. The urine was ammoniacal and of a milky color. A two-ounce bottle, allowed to stand over night, contained a half-inch of cream colored sediment. This would not clear up on being heated. Under the microscope pus cells were seen in abundance; some large pavement epithelial scales, triple phosphate crystals, bacteria, no tube-casts. Frequently muco-purulent masses would be voided obstructing for a time the flow of urine.

I attempted to pass a No. 10 steel sound, but it stopped against a very dense stricture in the last portion of the spongy urethra; nor was I able to get even the smallest filiform bougie into the bladder. During the week following I made four unsuccessful attempts to pass the stricture.

On June 30th, Prof. Ransohoff saw the patient with me. We made a patient and protracted effort, but failed to enter the bladder. The stricture was so tight and the man seemed in such imminent danger that Dr. Ransohoff thought cystotomy would be a necessity, but the weather was so intensely hot that we concluded to delay.

I made five more unsuccessful attempts to pass small rubber bougies through the stricture, and at last succeeded, July 22d, in getting in a No. 1 (Eng.). At three following visits I was not able to raise the size above No. 3, so I tied it in the urethra, leaving it until the next day. He passed his urine, while it remained, more easily than without it. When the bougie was removed, two and one-half inches of it that occupied the membranous and bulbous portion of the urethra, more resembles a cork-screw than a straight instrument. There were three distinct angles which deviated from the axis of the instrument about one-fifth of an inch.

I continued this method of leaving the largest bougie that I could introduce in the urethra over night for four days, when I was able to pass a Holt instrument and rupture the stricture. A No. 15 steel sound was then easily introduced into the bladder. This was continued at increasing intervals. There was no stone in the bladder, so I gave my patient hope of soon being better. He had been taking medicines a month when the stricture was ruptured, and for six months following he had what benefit could be derived from materia medica. I gave him morphia and belladonna by stomach, hypodermically and by suppository. Milk diet, abstinence from stimulants; mucilaginous drinks, broom-corn seed tea, fluid extract of corn silk, hyoscyamus, alkalies before meals, acids after meals, copaiba, iron, ergot, tannin, alum, whey, buchu, benzoic acid, etc.; tried washing out the bladder. I used these means separately and in different combinations, but my patient only vacillated between bad and worse. Prof. Conner saw him during this time and he will bear me testimony to his great suffering and the obstinacy of the case as well as his remarkable sensitiveness to the introduction of instruments. It was only by continually confronting him with the great danger of a recurrence of the stricture that I was enabled to have him persevere in the occasional use of the sound. I gave the case a great deal of attention and am satisfied that he had all the benefit that could be derived from medicines. I made several attempts to wash out the bladder, both with a soft Jacques catheter and with a double channel silver instrument, but the spasm of the bladder was so great that no good was accomplished.

Mr. Reeves reported in the *London Lancet*, June 1853, p. 536, several cases of chronic cystitis cured by ℈i to ℥i injection of nitrate of silver. My attention was more particularly directed to this method several years ago by reading a clinical lecture delivered in Charity Hospital, New Orleans, by Prof. T. G. Richardson. The lecture was published in the *Medical News and Library*, June, 1877, p. 58. I have not found the strong injection mentioned in any of the text-books which I have examined. Sir Henry Thompson, Mr. Coulson, Lebant, in Ziemssen's Cyclopedia, advise one-half grain to four ounces of fluid. In the late American edition of Holmes, "In obstinate cases this strength may be increased to gr. i to ℥i. I saw in a recently published lecture that Prof. S. W. Gross uses the strong injections. Prof. Richardson lays stress on the absurdity of weak solutions of this salt in chronic cystitis, having determined by experiment that 100 minims of *normal* urine decompose 2.1 grains of the salt. He lays down *three rules*, the observance of which is of paramount importance in the use of this method, and when these rules are strictly followed he uses strong injections of nitrate of silver fearlessly and without the dangerous consequences which many fear. Of course this treatment is not advised where milder measures succeed. His rules are:

1st. "*Be sure you are dealing with a case of genuine chronic cystitis.*"

He especially cautions against the condition not uncommon in hysterical women, sometimes called *irritable bladder.*

2d. "*Be equally sure that the exciting cause is removed, or, at least, so modified as to exert no further influence upon the disease.*"

3d. "*Never undertake this method unless the urethra is sufficiently large to admit a* No. 9 *or* 10 *catheter.*"

"The only instrument required, besides a catheter of the size mentioned, is an elastic bag capable of holding one or two ounces, with a nozzle to fit the catheter."

His method is to introduce the catheter, wash out the bladder with warm water until it comes away comparatively clear. "*Studiously avoid forcible distension of the organ.*" Use for a first injection a strength of ℈i to ℥i, use warm. Fit the nozzle into the catheter and gently compress the bag until at least an ounce is injected. If there is great pain it is not best to leave the fluid in the bladder longer than three to five seconds, relax the pressure and withdraw the fluid into the bag. Richardson advises that the tenesmus be controlled by morphia or chloroform if very severe. I think it would be advisable to give a hypodermic injection of morphia two to five minutes before injecting the solution. If no improvement takes place within a week, the strength should be increased to ʒ ss to ℥ i and the operation repeated. This failing, as much as ʒi to ℥i may be used.

To recur to my case. In January of this year he was very bad, if possible worse than he had been, The persistence of his disease was telling upon his strength as well as upon my patience. Nothing seemed to have the least effect, excepting large doses of morphia. I feared the strong injection of nitrate of silver, and my forebodings were much increased by warnings from professional brethren whose opinion I most highly respected; nevertheless, on January 22d, 1882 (lacking but one day of seven months of continued treatment without benefit), I determined to try a ℈i to ℥i solution of nitrate of silver. The urine was about the same as when I began treatment. I introduced a No. 10 Jaques catheter, threw in a small quantity of warm water, allowing it to run out. I then threw in an ounce of the solution. It excited great suffering, so I removed the pressure and withdrew it into the bag in five or six seconds. The pains were agonizing. I gave a half-grain of morphia, hypodermically within two minutes. The patient was quiet within fifteen minutes. I left and saw him the following day. Upon my entering his room he greeted me with, "I am nearly well." His acts of urination during the night had been followed by very little pain. Instead of the long accustomed milky fluid in the vessel there was only a just perceptible sediment on the bottom. I saw him next, five days after the operation, and he claimed to be perfectly well. He passed water without a particle of tenesmus. The first time in ten years. Urine normal. Patient discharged with orders to call me if he had any further trouble.

May 10th I called upon him at his work, nearly four months since his cure. He never has to urinate more than once from 9 p.m. to 5 a.m. Frequently sleeps all night without waking to pass water. Has felt no vesical pain since a few hours after the injection, with one exception for a few seconds only while he was traveling on a street car. He was very much alarmed, fearing its return at the next urination, but his fears were groundless. He thinks his health perfect, excepting occasional constipation, and a deep soreness in the region of the left kidney; of this he only complains upon rising to his feet after he has been sitting for some time. If he should arise immediately he would not feel the pain. I neglected to say when speaking of his symptoms that he had complained of this symptom for two or three years. I examined a specimen of his urine, passed two hours after dinner, after it had stood fifteen hours, color normal, acid reaction, specific gravity 1024. The quantity of mucous was somewhat increased, and instead of being suspended had settled to the depth of about one-half inch. There was no sediment except this cloud visible to the eye. A drop of this portion showed under the microscope a large number of the octohedral crystals of oxalate of lime; nothing else visible. Having some curiosity to know Prof. Richardson's present views on the subject, I wrote him and received the following answer:

UNIV. OF LOUISIANA, MEDICAL DEPT.
NEW ORLEANS, May 25th, 1882.

W. E. Shaw, M.D.:

DEAR SIR—Yours of the 22d inst., containing a brief account of a case of chronic cystitis cured by injection of a strong solution of nitrate of silver, is received, and I beg leave to return my thanks for the same.

It has now been quite twenty years since I began this plan of treatment, and *in no single case* have I had reason to regret its application. The injection is, of course, very painful in many instances, but as this is of short duration and can easily be controlled by chloroform or morphia, it is a small consideration in view of the remarkable relief which soon succeeds. I have never been so fortunate as to cure a case by a single injection, but a lady now under my care has been so signally relieved after seven years of suffering, that she declines a repetition of the operation. My cases have usually required from three to five applications, beginning with a solution of twenty grains of the salt to the ounce, and gradually increasing the strength to thirty-five or forty grains. In very few instances have I been obliged to use sixty grains. In the hands of a careful surgeon the operation is entirely free from danger. The fears expressed by some who do not hesitate to introduce the solid stick of nitrate of silver into the uterine neck, or apply the same to the delicate conjunctiva of the eye, is incomprehensible by me. With high regards,

I am very truly yours, T. G. RICHARDSON.

DIPHTHERIA.

By H. V. SWERINGIN, M. D.,
Professor of Materia Medica and Therepeutics in the Medical College of Fort Wayne.

When a disease commonly fatal, has been successfully treated that treatment is of untold interest to the profession, and should be immediately published for its benefit. Whether new or old, original or not original, the successful management of any malady characterized by a remarkably unfavorable prognosis, is of the very highest value to the physician and his patients.

But writers for medical journals should be honest in their contributions, correct in their premises, and reasonable in their deductions. As I have before had occasion to remark, if many of the articles contributed to the medical press are fair criteria by which to judge of the reliability of medical literature in general, the profession may as well depend upon the public press for its *facts* in medicine, as upon medical journals. There can be no doubt that not a few of these articles are gotten up for the occasion; manufactured out of whole cloth; frauds upon the profession. About the first thing a newly fledged physician thinks of now-a-days, is rushing into print; he must somehow or other worm himself into the medical literature of the day, a consummation he so devoutly desires. There is nothing which renders a medical journal so valuable to the profession as truth, honor, and integrity upon the part of its contributors.

A certain physician, soon after the introduction of chloral hydrat, much *too* soon thereafter, reported in one of the foremost journals of this country, thirty-six cases of traumatic tetanus successfully treated by that agent, while at the same time it was a matter of extreme doubt whether or not he ever saw a single case of that disease, thus grossly imposing upon the credulity not only of this particular editor and his readers, but upon the entire profession, since his report was published in many of the then forthcoming text-books.

If a knowledge of medicine is valuable, it is only so in proportion to its accuracy. As we rely on history only when we have confidence in the veracity of the historian, so should we rely on medical contributions only when we have confidence in the veracity of their authors. The medical journal should be as nearly as possible a perfect living record; a history whose pages must ever be open to receive the observations which are constantly being made by those who are honestly engaged in scientific pursuit; a record from which the physician may at any time ascertain *reliable* information upon the many varied subjects it presents; and the position of medicine as a science must eventually result from a rearrangement of the innumerable details which accurate observation may disclose and unfold. It is by observation only that medical science can either be created or perfected; consequently, false and imperfect observations form the greatest obstacle to its improvement; hence, the most searching scrutiny should be exercised upon the part of medical editors into the standing and character of the authors of the contributions they receive. Contributors to medical literature should be required to give names and dates, places of residence, etc., in reporting cases of a non-private character, or some evidence of good faith. Of course, we would not ask the observance of this rule, of such men as Gross, Thomas, Goodell, DaCosta, Mundé, and a host of other stars in our medical galaxy, but of those ambitious and perhaps over zealous medical "youths to fortune and to fame unknown," who write probably three-fourths of the matter which appears in our journals.

But I have extended these prefatory and perhaps irrelevant remarks further than I originally designed.

About 2 p. m. on Sunday, July 2, 1882, I was called to see little May, age, six years, the daughter of Mr. E. G. Anderson, a prominent grocer of Fort Wayne. It required but a very superficial examination to determine the character of her illness, although from Thursday of the previous week up to the date or my visit, her parents considered her complaint a mere "cold in the head" or simple acute catarrh, as she was, during this period, engaged in her plays quite as usual. It was a case of nasal, pharyngeal and laryngeal diphtheria. I so informed the parents, and expressed the opinion frankly that no power on earth could save their child. We did all we could, however, for the little sufferer, but the exudation extended down the trachea, and she died of diphtheria croup in about thirty-six hours from the date of my first visit. Immediately after the detection of the nature of her complaint, the other children, three girls and one boy, were excluded from her room and placed upon preventive treatment; at least that was what I called it, but if any member of the profession will give me the prophylactic treatment of diphtheria, based upon its etiology, I will promise a strenuous effort to furnish the curative, in due time. An examination of their throats revealed nothing more than a general slight redness, and a swollen condition of their tonsils; the following prescriptions were then written for them:

℞ Quin. sulph ʒss.
Tr. Ferri chlor. fʒij.
Spits. Aeth. nit. fʒiv.
Vini Xerici q.s. ad. f℥iv.
M. ft. sol. et.

Sig. A tablespoonful in water an hour or two before each meal.

℞ Sod. salicyl. ʒiv.
Kali iodid. ʒi.
Aquæ menth. pip. f℥iij.
Syr. simp. fʒij.
Tr. aurant. cort. f℥vi.
M. ft. sol. et.

Sig. A half tablespoonful in water an hour or two after each meal.

℞ Bromo-chloralum f℥xvi.

Sig. Use for disinfecting purposes as directed.

℞ Spts. Frument. opt. f℥xvi.

Sig. A tablespoonful *ad libitum.*

℞ Pulv. potass. chlor. ʒiv.

Sig. Add to a pint of water and use for a gargle every hour or two, swallowing a little as often.

I continued my visits to the family, making daily examinations of the throats of the children; nothing unusual was noticed in any of them further than has already been mentioned, until Friday, July 7th, when Ella, the next child, eight years of age, was taken with a chill which was followed by considerable fever, with no change, however, in the appearance of her throat. I regarded it as malarial, and gave her several extra doses of quinine; on the next, the 8th, she was decidedly better, with no apparent change in the condition of her throat; on the next, the 9th, she had no perceptible chill but considerable fever; the marked intermission, together with the appearance of that peculiar eruption about the mouth, which, however, in her case, was peculiarly disposed to bleed upon the slightest touch, confirmed my opinion that the malarial element figured largely in the case; on the next day, the 10th, she seemed better again, having very little if any fever, a rather rapid pulse, but on examining the throat I noticed quite a little patch on the left tonsil; this patch did not look like a typical diphtheritic exudation because it was rather too white, appeared as if it could be easily removed, and resembled more, the accumulations seen in follicular tonsillitis or pharyngitis; but, inasmuch as it had made its appearance in the same house, and in the throat of one whose sister had so recently died with an unmistakable diphtheria, I felt greatly alarmed, although I said nothing to the parents. I then wrote for her the following prescriptions:

℞ Quin. sulph
Acid salicyl.
Potass. chlor. aa ʒss.
M. ft. pulv. et in ch. no. viii. div. et.

Sig. A powder every four hours, given dry on the back part of the tongue, to be swallowed slowly.

℞ Tr. ferri chlor. fʒij.
Acid hydrochlor. dil. fʒi.
Vini Xerici q. s. ad f℥iv.
M.

Sig. A tablespoonful in water two hours after each powder.

As a local application, I intended to use a spray of a mixture of iodine, glycerine and carbolic acid, but my atomizer did not work well and attempted its use but once; so in the language of old Rip Van Winkle, "We'll not count that this time." I then left the house in the condition mentally, of hope and fear: hoping that it was not diphtheria and fearing that it was; a condition which only the physician can appreciate or with which he can sympathize.

As a result of my examination on the following day, the 11th, I discovered that the patch had extended over both tonsils anteriorly; I requested the father also to view their condition, and informed him that although they looked badly, and probably nine out of ten physicians would pronounce their condition diphtheritic, I was not entirely satisfied with that view of the case, although I was treating her for diphtheria; that of two diagnoses it was a practice common with many physicians to adopt the graver or more serious, for the reason that if the patient died, no surprise will be expressed, and if recovery should occur, not only the wonder but the admiration of the patient, parents, and friends will be centered in the great skill of the physician; he believed it to be diphtheria and consequently was very much in fear, and requested me to leave nothing undone. No change was made in the treatment other than the administration of whiskey and milk was insisted on at regular intervals. My visits now became more frequent. My examination on the following day revealed as bad a *looking* throat as I ever saw in the most malignant case of diphtheria: nothing could be seen save one continuous patch covering the tonsils, fauces, uvula, in fact, *every* thing usually seen in a throat; while making the examination she coughed and ejected upon the sleeve of her mother, a detached piece of the material, which I immediately submitted to Prof. M. F. Porter, A. M. M. D., Prof. of Physiology in the Medical College of Fort Wayne, for microscopical examination, who found it organized, containing pus cells, and who believed it to be diphtheritic membrane. After its ejectment I made no examination to ascertain if the surface from which it became detached was bleeding, feeling tolerably elated over the fact that so large a piece, probably one-fourth or one-sixth of an inch in diameter had come away so readily.

Now, to make a long story short, the child recovered on the treatment already given, and today, July 19th, 1882, was taken to Rome City, about forty miles north,, where in that somewhat noted health resort, she will complete her convalescence.

I have now given a faithful history of the case; I might have entered into other details, but this report has, I fear, already grown tedious to the reader, and I will therefore bring it to a close.

I will add, in conclusion, that I treated a child of Mr. B. R. Noll, a leading druggist of this city, residing on Douglas Avenue, in October, 1880, for diphtheria, successfully, in a manner similar to the foregoing treatment, the patient taking nine dollars worth of champagne instead of the whiskey; but in the same treatment I failed in the case of a little boy, son of Mr. D. B. McClure, of Fort Wayne. who died of diphtheria in December of the same year.

DR. W. B. CARPENTER, F.K.S., is announced to deliver the next Lowell lectures at Boston, U. S. A.

Correspondence.

FOREIGN NEWS.

LONDON, ENGLAND, July 10th, 1882.

Editors Lancet and Clinic:

It is often a fact, which is hard to pass over in considering the characters of great men, that eminence and reputation do not arise from their teaching capacity. In recent years the science of teaching, as quite distinct from that of investigation or research, has hewed out for itself an enviable position. Discovery is one thing and teaching that discovery or its results quite another.

Confusing these separate things is an error into which students often fall and frequently they decide upon attending a certain college solely upon the number of eminent names which the announcement of that particular college contains without any reference to the teaching capacity of the corps of instructors.

I was not thus deceived myself, but an example of an eminently qualified man who cannot teach coming within my notice, I thought that a brief description of him would probably be of some interest to your Cincinnati readers.

The professor of whom I speak is no less a personage than Dr. J. Burdon Sanderson, whose renowned researches in physiology and pathology have earned for him a deserved and world-wide reputation. In his practical laboratory or in conversation he has about him a genial affability and personal magnetism, which is in such marked contrast as compared with him in his lecture-room, that I feel compelled to allude to it before describing him in the latter. The man's figure, attitude, personal appearance and physiognomy are so closely connected to his manner of lecturing that it will be necessary to describe them in order that a fair understanding and appreciation of the whole may be gained.

He is about six feet, two or three inches tall, with a slender figure, which reminds one much of Ex-Governor Allen, but without that proportion and military bearing which made the Ex-Governor's appearance so commanding. His head is large, inclined forward and is attached to the body by a short neck, so that his chin almost rests on his chest. His shoulders are square and thrown back. This adds to the relative position of the head and gives to it the appearance of being set in between the shoulders from in front. The head and shoulders are set upon a body which has a long and slender waist, requiring a vest with about fourteen buttons. His limbs are long and slender and his hands and feet are very large and long. His legs are long and are out of all proportion to his thighs. His hair is of a dark brown color, mixed with a few scattering gray shreds, and is long, silky and wavy except at a point on the upper and back part where the head is almost bald. This long, wavy brown hair is parted in the middle, brushed partly over the forehead, clusters about and completely obscures a pair of small ears. This gives to the full face a striking resemblance to Oscar Wilde, and while it has all that softness which Oscar's possesses, it lacks the redeeming beauty of his somewhat regular features. In profile, his high cheek bones, deeply-set eyes with their heavy over-hanging eyebrows, prominent nose and chin, and his firmly set lips with deep lines radiating from the corners of his mouth, reminded me very much of pictures of the celebrated Indian chief Tecumseh.

This renowned man, possessing as he does the most objectionable features of Ex-Governor Allen, Oscar Wilde and Tecumseh, is dressed in a way which especially adds to his peculiar appearance. He wears a short, closely-fitting Pince Albert coat, the skirt of which does not reach to the knees, and consequently displays in greater prominence the long leg. The coat is padded on the shoulders and that adds to their prominence as well as to the relative sinking of the head. It is usually worn opened in front and while giving a wrinkled and baggy appearance to the back it displays the high vest beneath with its close fit and extraordinarily long and slender waist. The trowsers are made of material composed of alternate white and black stripes, arranged vertically, and this produces to the eye the deception of still greater height and thinner legs.

Burdon Sanderson as a lecturer is a fitting climax to his peculiar features and odd dress. One feature above all others is said to be characteristic of the man and that is absent-mindedness. And as a consequence he has notes to lecture from which he closely follows, often these notes are arranged on the blackboard and he turns to them from time to time. During the course of the lecture he often half leans on a pointer which he grasps with both hands, at the same time twisting his legs about each other, finishing the performance by planting the toe on the floor and cocking the heel of a number twelve boot up in the air after the manner of a London swell. He starts out upon his lecture with a loud voice and fluent tongue, but that is only for the instant and he soon closes his eyes in order to think, as it were, unannoyed by anything which he sees. Little by little the fluency of his speech fades, and synchronously with it, his voice. At this lack of words increased, the few which are uttered become more and more distinctly lisped, soon he hesitates, his head is thrown back and the eyes and mouth are so firmly closed that the face and forehead become filled with a mass of lines and deep furrows radiating from the angles of the eyes and mouth, and he seems to be undergoing a species of inward agony. The hesitation becomes more and more marked, the lines on the face more and more prominent, the furrows deeper, his head sinks between his shoulders until it is in a large measure hidden and finally he stops completely. Then there follows a few abortive and painful efforts and another pause, in which he is apparently lost; after some more efforts, he opens his eyes, straightens himself up somewhat absent-mindedly, and then suddenly begins in a loud voice, accompanied with a half sigh of relief, an explosion as it were, and as much as to say: "Oh, what a relief to think I have remembered what I wanted to say, I must hurry and get it out before I forget it again." Then follows the repetition of what I have just attempted to describe, and in a short time the hesitation, agony, pause and explosion recur, and so on to the end of his lectures.

As one can imagine his lectures are filled with mistakes, lapsus linguæ, repetitions and other phenomena which accompany his peculiar developments, and the students seem heartily glad when these excruciating lectures are closed. They fortunately last only thirty minutes and nothing is clear or plain in them. W.A.D.

Selections.

MEDICINE.

Lupus Erythematosus. — Dr. Th. Veiel, of Canstatt, Germany, delivered the following before the International Medical Congress, London, August, 1882:

Respected assemblage: In response to the kind invitation of our esteemed English colleagues, I have the honor of briefly laying before you my views on the nature and treatment of lupus erythematosus.

By lupus erythematosus I mean, of course, the lupus erythematosus of Cazenave, or "of the Germans," as it is called by a portion of our English colleagues, in contradistinction of the lupus erythematosus of the English, which constitutes the mildest form of lupus vulgaris.

Fifty-five cases of this affection have been treated in the sanitarium for diseases of the skin in Canstatt, which was founded by my father, and is conducted by my brother, Dr. Ernst Veiel, and myself.

In all of these cases the course of the disease was chronic; the form of the lesions the orbicular, more rarely the diseminated; and their seat, as a rule, the nose, cheeks, eyebrows, ears, and the hairy scalp.

In the majority of the cases the disease first showed itself between the ages of twenty and forty. In only two cases did it appear before the tenth year of life, and in one after the sixtieth.

That malignat form of lupus erythematosus aggregatus described by Kaposi, Stern, and Bock, which appears with acute and subacute febrile eruptions, and spreads over the entire body, has never come under my observation in Canstatt. I have seen it, however, in the year 1872, in Vienna, at the clinic of my unfortunately too-early deceased and highly-esteemed teacher, Hebra.

I propose to-day to answer the following questions concerning the nature of lupus erythematosus.

1. Is lupus erythematosus a disease *sui generis*, or is it only a subdivision of lupus vulgaris?

2. Is lupus erythematosus a partial manifestation of some well-known general disease of the organism, such as scrofulosis, tuberculosis, gout, or syphilis?

3. Does the affection of the sebaceous glands, or of the sweat-glands in situations where there are no sebaceous glands, constitute the essential element of the disease?

The answer to the *first* question is as follows:

Lupus erythematosus is an independent disease, according to its first appearance, the aspect which it presents, and its course.

This view is supported by the following facts.

The different forms of lupus vulgaris frequently run into each other, while lupus erythematosus never develops into lupus vulgaris. The simultaneous occurrence of the two diseases in one individual has never been observed, to my knowledge.

Lupus erythematosus appears in the form of small *superficiäl* red points, upon which firmly adherent scales are formed, which send down root-like processes between the elongated papillæ. Lupus vulgaris begins with small brownish nodules lying deep down in the cutis.

Lupus erythematosus never results in softening, suppuration, or ulceration. It never forms nodules, like lupus vulgaris.

Lupus erythematosus always remains limited to the cutis and subcutaneous cellular tissue. It never attacks deeper tissues, such as cartilage.

Lupus erythematosus is almost invariably a disease of mature life; lupus vulgaris does not appear before the period of puberty.

The *second* question must be answered as follows:

Although it cannot be denied that lupus erythematosus frequently occurs in connection with scrofulosis, tuberculosis, gout, and chlorosis, and that its victims very often present an anæmic appearance, this is by no means the rule. One very often encounters it in perfectly healthy persons.

Although we may therefore suppose that it bears a certain relationship to the above-mentioned disease, especially scrofulosis and tuberculosis, in view of the fatal cases described by Kaposi the connection has not yet been proven to exist.

With syphilis lupus erythematosus has absolutely nothing in common, and no anti-syphilitic treatment is of any value whatever in its management.

As regards the *third* question, whether the affection of the sebaceous or sweat-glands is the essential feature of lupus erythematosus, I showed in the year 1872[1] that although in many cases the participation of the sebaceous glands in the morbid process gives a very peculiar character to the aspect presented by lupus erythematosus, the affection of these glands is nevertheless an entirely accidental feature, an opinion which has since been confirmed by the microscopical investigations of Geber, Thin, and Vidal.

The primary and essential element of the disease is the accumulation of blood corpuscles in the dilated capillaries of the papillary body and corium, and the cellular infiltration in the neighborhood of the vessels. These changes may be recognized at a time when the sebaceous and sweat-glands are still absolutely intact. The affection of the glands is the consequence of the morbid change in the vascular network which so richly surrounds them.

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[1] Th. Veiel: "Ueber Lupus Erythematosus," Tübingen.

In this manner the fact is also explained that in some cases the acute dermatitis of variola, in others that of erysipelas, gives the first impetus to the development of lupus erythematosus. The aspect presented by lupus erythematosus varies according to the secondary implication of the sebaceous glands in the morbid process. If these are severely affected, the skin imparts a greasy sensation to the touch, and the diseased patches are covered with scales and crusts rich in sebaceous matter. If the glands are but slightly or not at all affected, there is formed, from the outset of the disease, a brittle, hard, horny, thickened layer of epidermis, containing almost no fatty matter.

The view that the affection of the vessels and of the tissues around them is the primary step in the disease, is also supported by the circumstance that the points of predilection of lupus erythematosus are the places where stasis and dilatation of vessels take place in other diseases also, such as the nose and cheeks in acne rosacea, the ears, nose, and backs of the fingers and toes in frost-bites.

The observation of Oscar Simon,[1] which has been advanced in opposition to this view, that lupus erythematosus did not attack a cicatrix left by a burn, in which the follicles had been destroyed, although it developed in its immediate neighborhood, is certainly not sufficient to completely invalidate the opinion, on account of the fact that in cicatricial tissue not only the follicles but also the papillary layer of the corium and the vascular network surrounding the follicles are destroyed. We very frequently see relapses occur in young, highly-vascularized cicatrices, even when they were produced by deeply-acting escharotics, such as caustic potash, in which case we are certainly warranted in believing that the follicles were also destroyed.

Holding these opinions I believe that we should discard all designations of lupus erythematosus which are based upon the affection of the sebaceous glands, such as lupus acnéique (Hardy), lupus acneiformis (Tilbury Fox), lupus seborrhagicus (Volkmann), as Hebra long ago did with seborrhœa congestiva.

Passing on to the consideration of the treatment of lupus erythematosus, I must first remark that there are some, fortunately very rare, cases of the disease, which defy all treatment, even the most energetic, in which relapses always take place in the cicatrices left after treatment.

I propose to answer the following two questions:

1. Is general treatment of lupus erythematosus indicated, in addition to local, and in what should it consist?

2. What remedy has proved the most valuable in the local treatment?

In answer to the first, I must state that we have never yet succeeded in curing lupus erythematosus by the internal administration of (other) remedies. There is no specific for this disease, iodide of potassium and arsenic have always failed in our hands. Of the iodized starch recommended by McCall Anderson we have not yet had sufficient experience. I would, however, be unwilling to abandon the attempt to strengthen the organism of the patient as much as possible, particularly since the publication of severe and fatally-ending cases of the disease. If symptoms of scrofulosis, tuberculosis, gout, or chlorosis be present, remedies should be directed to meet these indications. If such be not discovered, and there be no reason to fear them on grounds of heredity, we must content ourselves with the administration of the most nourishing food, and providing good air.

In answer to the second question, I would say that the choice of the local remedy should be determined by the individual case. Of the many agents which have been recommended we have found the following of most service.

In small circumscribed patches of lupus erythematosus sebaceous the iodide of mercury, which was recommended by Cazenave (in the strength 1 : 5—15 of lard), has proved of exceptional value. After freeing the skin from oily matters, it should be applied until bullæ filled with pus have formed. The crusts should be allowed to dry up and fall off. In some cases the repeated application of this agent, which, unfortunately, causes great pain, becomes necessary.

Trichloracetic acid acts with greater intensity, and is much to be recommended, particularly in lupus erythematosus corneus. It is characterized by the rapidity of its action, which does not extend too deeply, by causing but moderate pain, by the exact limitation of its effects to the point of application, by the fact that it produces only a slight degree of inflammation in the neighborhood of the eschar, and that it leaves smooth scars behind. It is much to be preferred to the majority of other acids. It is best applied with a glass brush, and then bored into the eschar with a glass rod.

For use on larger surfaces we prefer the pyrogallic acid, which was recommended by Jarisch, to the above-mentioned agents. It is applied for three or four days, in the form of an ointment (1 : 10 of vaseline), and the result after removal of the slough is sometimes very surprising.

If none of these remedies produces the desired result, we do not resort to the method of scraping with the sharp spoon—after which relapses always occur,—but employ multiple scarification (which acts much more deeply), with subsequent cauterizations with chloride of zinc. Without the latter, the results are bad. We are in the habit of performing the operation with the instrument invented by my brother in 1873,[1] and since improved, which consists of six lancets placed side by side. After the hemorrhage is arrested a concentrated alcoholic solution of chloride of zinc is painted on the part. On account of the great pain attending the operation, local anæsthesia should be produced by means of Richardson's ether atomizer in the case of small patches; if larger surfaces are to be scarified, chloroform should be administered.

If, finally, the foregoing remarks are collected together, the following propositions may be formulated.

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[1] "Localisation der Hautkrankheiten," p. 100.

[1] *Archiv für Dermatologie und Syphilis.*

1. Lupus erythematosus is an independent disease and not a form of lupus vulgaris.
2. A connection between lupus erythematosus and scrofulosis, tuberculosis, and syphilis cannot be established.
3. The affection of the sebaceous or sweat-glands is an accidental accessory phenomenon. The essential nature of lupus erythematosus consists in the pathological alterations which are found along the course of the blood-vessels.
4. No remedy has as yet been discovered, the internal use of which produces a cure of lupus erythematosus.
5. The most efficient local remedy for lupus erythematosus is multiple scarification, in connection with subsequent cauterization with chloride of zinc.—Translated by W. T. Alexander, M.D., *Archives of Dermatology.*

CERTAIN ACCIDENTS OF BRIGHT'S DISEASE—

By M. Dieulafoy, Prof. Agregé of the Faculté de Medécine de Paris, in the *Medical and Surgical Reporter.*

Polyuria and Pollakiuria.—Among the troubles observed during the evoluion of Bright's disease, there is one to which I desire especially to call your attention; this is the frequently recurring desire to pass water, amounting, in some cases, to a veritable incontinence of urine. There are patients with chronic nephritis, who are obliged to urinate ten or twelve times during the night, thus inducing persistent insomnia. I have myself observed cases where the patient was obliged to pass water fifteen or twenty times daily, and two women in my service suffered from an almost constant desire to urinate.

But it must be understood that this frequent micturition is not due to the secretion of an exaggerated quantity of urine. There are certain diseases—glycosuria and diabetes insipidus, for instance, in which the patient urinates frequently because there is a large secretion of urine; in certain cases of Bright's disease, also, the secretion is so exaggerated as to induce frequent micturition; but at present I intend to take into consideration only those cases where the frequent micturition is independent of the amount of urine secreted, sometimes coinciding with an abundant secretion, and at others accompanying a secretion which does not amount to a few hundred grains in the twenty-four hours.

There is, then, in Bright's disease, two distinct and independent urinary systems; the first, which I will not at present speak of, being a trouble of secretion, polyuria; and the second, which I will consider in this lecture, is characterized by the frequently recurring desire to pass water. Al-these differing urinary troubles have been perfectly distinguished by contemporary authors, Jaccond (Traité de Pathologie Interne, vol. 2, p. 417), Lecorché (Traité des Maladies des Reins, p. 387), and Rosensteim (Traité des Maladies des Reins), they are yet too often confounded together and considered under the designation polyuria, which is incorrect, as polyuria simply refers to a trouble of secretion. Frequent micturition constitutes, I repeat, an independent symptom, having its own special value and importance; it becomes, then, necessary to confer on it a special designation, and I propose the denomination pollakiuria (from μολλαχιδ, often). The term polyuria will then serve to designate an abundant secretion, while pollakiuria would signify a frequent call to urinate.

Brightic pollakiuria may come on very early or very late in the course of the disease, and in some cases is associated with pain. Precocious pollakiuria is that which accompanies the primary symptoms of Bright's disease; it is associated or not with epistaxis, cephalalgia, albuminuria, attacks of dyspnœa, polyuria, cramps in the muscles, œdema of the face and extremities, and troubles of sight and hearing; all symptoms which may appear singly or be associated together at any period of the evolution of the malady. Here is an example of pollakiuria appearing at the début of the disease:

M. Y. complains of violent headache for the past two months; he has slight epistaxis just after rising in the morning. For the past few days he passes water frequently, although the quantity of urine is not increased; he is obliged to rise four or five times during the night to evacuate the bladder. He recalls having had another such attack about two years since, with pollakiuria and slight epistaxis, so that his malady dates back two years, at least. Since that time he has been troubled from time to time with lumbar pains, which he considered an attack of lumbago, violent headache, slight troubles of audition, and attacks which he considered of asthmatic origin, but as these symptoms did not at any time last long, and were not of great intensity, they gave him no great anxiety.

What troubles him most at present is the pollakiuria; there is no polyuria, and the urine contains but five grains of albumen per quart.

In a few cases pollakiuria is an isolated symptom, appearing as the initial sign of commencing Bright's disease; nevertheless, careful examination will generally reveal other symptoms, not at all prominent, it is true, but which will permit us to affirm the existence of Bright's disease. In the following observation this species of pollakiuria was well marked: Mme. D., fifty-two years of age, complains, for the past six months, of very frequent calls to urinate, particularly during the night, passing each time but a small quantity of urine, for the entire amount passed during the twenty-four hours does not exceed forty ounces.

There is, then, pollakiuria without polyuria. The analysis of the urine gives but traces of albumen.

The symptom pollakiuria is so marked in this case that it appears as the unique and initial sign of commencing Bright's disease. But after careful questioning we find that she has had, on several different occasions, ringing in the ears, and that hearing is much enfeebled in the left ear. She has had slight epistaxis, cramps in the limbs, and frequently itchiness of skin over the left arm and forearm. A slight bruit de galop is heard on auscultation of the heart.

The first analysis of the urine, made by M. Yvon showed exceedingly slight traces of albumen, six drachms of urea per quart, with a density of 1.020, the urine being slightly acid. A second analysis, made nine months later, gave three grains of albumen per quart, with four drachms of urea, and a density of 1.019.

In other cases pollakiuria appears very late in in the course of the disease.

Mme.G. had, in the course of December, 1879, a very grave attack of scarlatina, accompanied or complicated with albuminuria. M. Weber, who had care of Madame G. during scarlet fever, at Amelia-les-Bains, several times examined the urine, and has kindly furnished me with the data of the case at that period.

After the first acute period, characterized by generalized anasarca, with albuminuria, attacks of dyspnœa, etc., Mme. G. experienced a notable amelioration, and for three months traveled on the continent, believing herself completely cured. But very soon after the acute period succeeds the insidious and latent course of the chronic disease. Arriving at Paris during the month of March, the patient commences to suffer from Pollakiuria, and is obliged to rise twelve or fifteen times during the night to evacuate the bladder, which causes a veritable state of insomnia. The urinary secretion is below the normal average.

The patient complains of great pain in the left lumbar region, a creeping sensation (fourmillements), with numbness of the fingers, nausea, and cephalalgia. There is a slight localized œdema of the foot, the leg, and the left lumbar region.

Analysis of the urine shows a very acid reaction, a density of 1,028, with five drachms of urea per quart, and but slight traces of albumen. The milk diet is well tolerated; she takes hardly a quart of milk per diem. The micturitions are very frequent, but the secretion of urine is so much below the normal that there is not a pint for all in the twenty-four hours.

Soon after very grave nervous symptoms supervened, the urinary secretion was entirely suppressed, and there was violent cephalalgia, accompanied with somnolence and torpor.

I will not insist on the other peculiarities of this case. I wished only to call your attention to the symptom of pollakiuria, and demonstrate to you that it coincided, in his case, with a gradual fall in the quantity of urine secreted.

In certain cases, particularly among women, the pollakiuria is painful. Two of the patients in my service have presented this peculiarity. The first, who succumbed through the progress of this disease, was, at the same time, affected with phthisis and Bright's disease; the autopsy revealed the lesions of mixed nephritis; the other is at present under observation. With both these patients pollakiuria was excessive; the calls to pass water recurred constantly, and this symptom was prominent from the beginning of the malady. The quantity of urine passed at each micturition was very small, at most a teaspoonful, and each time pain followed, not at the moment of emission, but just afterward. This pain was very acute, and had all the characters of a spasm; it was due, probably, to painful tenesmus of of the neck of the bladder, a spasmodic condition of the sphincter muscle. The pain generally lasted several minutes, and reappeared after each micturition.

The few illustrations I have given suffice to prove that polyuria and pollakiuria are independent urinary troubles; polyuria is a trouble of secretion, the kidney being the organ affected, while the other, pollakiuria, is a trouble of excretion, due to vesical derangement. It is even remarkable that in Bright's disease the troubles of excretion often precede those due to disorders of secretion, and the frequent call to urinate may appear a long time before any exaggeration in the quantity of urine secreted.

Pollakiuria is due to exaggerated excitability of the mucous membrane, or of the muscular coats of the bladder. When the muscles of the body of the organ are affected, pollakiuria supervenes sooner or later, with more or less urgent calls to urinate, when the vesical sphincter is the cause of the freqency of micturition, the act is often followed by more or less prolonged and painful spasm.

As regards the cause of these troubles of the organs of excretion, when the apparatus of secretion alone seems affected, it is impossible to form an opinion. Are these symptoms due to modifications in the composition of the urine itself. I do not think so, for the symptom pollakiuria often supervenes at the début of the malady, when examination of the urine reveals nothing abnormal. Can they be due to reflex action having its origin in the kidney, and affecting, secondarily, the bladder? This is possible, but there is no proof; and, in fact, the vesical symptoms often appear at a period when the renal lesions are as yet far from apparent.

For that matter, the idecision we feel in attempting to explain the vesical symptoms of Bright's disease, is not at all surprising, for the same difficulty exists with all other organs, whether the symptoms affect the heart or the liver, or consist simply in œdema. But, although the pathogenesis be yet far from elucidated, the clinical study is not the less interesting, and some elements to aid diagnosis may be drawn therefrom.

In effect, in presence of a patient suffering from pollakiuria, and yet presenting none of the lesions which ordinarily give rise to frequent micturition, such as calculus, hypertrophy of the prostate gland, and vesico-prostatic tuberculization (Guyon), we should consider the possible début of Bright's disease. And, if the patient be then very carefully examined, certain other symptoms of the disease, perhaps but slightly marked, may be elucidated.

For a long time my attention has been devoted to the modes of evolution of Bright's disease. With the exception of a few cases, where the origin and début of the malady are clearly indicated, as in scarlatina and certain cases of acute epithelial nephritis; with such exceptions, it has seemed to me, in a great number of cases of Bright's disease, it is very difficult to fix precisely the period of development, and the pathogenesis is oftener still more obscure. In 1827, when Bright wrote his remarkable memoir, it required all his great talent of observation to create the morbid entity which bears his name.

The pathological entity was based clinically on the presence of œdema, accompanied by coagulable urine. But these principal symptoms are often wanting, and do not supervene until an advanced period of the malady. I have on several occasions been convinced that cases regarded as nephritis of sudden onset and very rapid course were, in reality, cases of nephritis of slow evolution, during the course of which an acute attack supervened. An individual consults us, stating that his health has been considered good up to within a few days, or a few weeks. Now he suffers from lumbar pains, attacks of dyspnœa; his face is slightly puffed, there is some œdema of the feet, and the urine contains albumen in slight proportion.

At first this would appear to be a case of acute nephritis, of a few weeks' duration; but if the patient be carefully interrogated as regards the state of his general health previous to this acute period, it will be found that he has suffered from frequent headache, that for the past two years he has had attacks of pollakiuria and cardiac palpitation. That from time to time he had slight epistaxis in the morning, ringing in the ears, and diminution of hearing capacity, and other symptoms apparently of slight value, which will serve to show that the evolution of the malady has been going on for several years before the acute attack supervened. We do not, consequently, at present, wait for œdema and albuminuria to affirm the existence of Bright's disease.

Œdema appears very late in certain forms of nephritis, and albumen may be a long time wanting, or disappear entirely from the urine at times. So that, in order to arrive at a correct diagnosis when these two principal signs are wanting, the other symptoms should receive careful attention. In a doubtful case, an abnormal heart sound (bruit de galop de Potain) removes all uncertainty as regards diagnosis. The auditory troubles of Bright's disease have not as yet received the attention they merit, but the ocular troubles have drawn considerable attention, and ophthalmoscopic examination may prove invaluable in a difficult case. I need not point out the value of early diagnosis, as therapeutic interference has most efficacy when commenced at an early period of the disease.

New Researches Concerning the Organs of Touch. — Ranvier (*Comp. rend. Acad. des Sciences; Rev. des Sciences Méd.*, Jan. 15, 1882, page 16), having previously shown that the nerves themselves terminate, in the corpuscles of touch of the beak and tongue of web-footed animals, by means of disks situated between special cells (tactile disks and cells of touch), has extended his researches to other organs, and ascertained that among different domestic animals the tactile disks are analogous to those already described. As for the corpuscles of touch in man, it is by the study of their development that their structure can be ascertained. In the newborn child we see the nerves of touch mounting up into certain papillæ of the palmar surface of the fingers and terminating at their summits, directly underneath the first row of the mucous corpuscles of Malpighii, forming an arborization whose branches are heaped up on one another; at this time, this terminal arborization, which represents the embryonal corpuscles of touch, does not have any kind of cellular elements mingled with it, but there exists beneath it a small mass of round, transparent, and very clear cells. But on pursuing this examination on infants of different ages, it is found that little by little these small cells, at first heaped up beneath the terminal arborization, spread out on the sides, enveloping and insinuating themselves between these branches. Very soon this limits itself, and so a lobe of the corpuscle of touch is formed. Nerve fibres are never seen accompanying corpuscle cells, but the branches of arborization freely terminate by means of knots more or less flattened.—*Archives of Dermatology.*

Upon the Action of Certain Organized Bodies on the Bioxide of Hydrogen.—In the last communication that I had the honor to make to the academy, I spoke of the characters of certain organized substances and microzymes. I left untouched, however, the power they possess of freeing oxygen from the bioxide of hydrogen. Since M. Dumas has had the goodness to bring up again in a notice of my *Memoir concerning albuminous substances*, the fact that fibrin owed to the presence of molecular granules (microzymes) the power of decomposing oxygenated water, I may now complete the demonstration and bring before you a new series of experiments and parts, which seem to be important on account of their relation to a question of the greatest interest to medicine, physiology and chemistry.

Thénard, studying the power that certain vegetable and animal material possessed of freeing oxygen from the bioxide of hydrogen came to two very important results which may be expressed as follows:

(1) Organic primary forms of a vegetable as much as an animal nature do not let free oxygen from the bioxide of hydrogen. *The fibrin of blood is, however, an exception to this rule.*

(2) The organized material ot organs and animal tissues decompose oxygenated material without absorbing any oxygen, and without undergoing as a result the slightest apparent change when the bioxide is not very concentrated. In the process no nitrogen is set free, and neither water nor carbonic acid gas is found; facts, the importance of which, should attract the attention of chemists and physiologists. Thénard cites as examples the tissue of the kidneys, lungs, liver, spleen, etc., as among those which act with the greatest energy, while the nails, tendons, and skin rapidly lose their decomposing power.

In the hands of Thénard, fibrin conducted itself like an organized material. The fact shown by M. Dumas, to which I have called attention made the fibrin of the blood an exception.

After the discovery of the cause which gave to blood fibrin the power of decomposing oxygenated water, I endeavored to find if the cause was not the same in all tissues, namely the presence of microzymes. But one great difficulty presented itself. The microzymes of fibrin come from the blood, and the blood penetrates the whole organism with the exception of a few tissues. I endeavored to overcome the difficulty, and to show that the decomposing power is not necessarily attributable to the blood, but that the microzymes of different tissues which I have already demonstrated by a communication to the academy have different functions, are also endowed with an unequal energy for setting free oxygen from oxygenated water, in some cases, indeed, there being no action of that kind whatever.

I have endeavored to free the tissues from every trace of blood, and wherever I could isolate the microzytes of a tissue, I experimented with them. I have taken up all the animal tissues and the microzymes of all those I was able to isolate. The method of experimentation I have used is that of Thênard. I have determined how much oxygen is set free from a known amount of bioxide of hydrogen, by a known volume of microzymes. In these experiments I have used every care to avoid possible errors.

The academy will gain some idea of the importance of these experiments by considering the following facts:

Bioxide of manganese sets free 26 c.c. of oxygen from 2 c.c. of oxygenated water in twenty minutes.

The pulmonary microzymes of sleep set free 15 c.c. of oxygen from 2 c.c. of oxygenated water in the same time. In the following table I give the results obtained by the action of the different decomposing substances acting for 24 hours on 2 c.c. of oxygenated water:

Oxygen set free from two centimetres of bioxide of hydrogen in twenty-four hours:

	c.c.	
Pulmonary microzymes of the sheep	29.0	oxygen
Microzymes from sheep's blood	20.5	"
Microzymes from sheep's liver	21.0	"
Microzymes from dog's spleen	9.8	"
Muscular Microzymes from chicken's heart	12.5	"
Muscular Microzymes from sheep's heart	3.3	"
Microzymes from a dog's brain	2.8	"
Microzymes from the pancreas of an ox	3.4	"
Microzymes from the yellow of a chicken's egg	3.1	"
Microzymes from the dog's gastric glands	0.5	"
Nails of man	0.8	"
Bones of sheep	0.8	"
Pure osseine	0.6	to 1 c.c.
Periosteum	1.0	"

If it be borne in mind that the mercury used in the experiment is capable of setting free 0.6 c.c. of oxygen from the same volume of oxygenated water, we may look upon the microzymes of the gastric gland of a dog; as well as osseine, periosteum, and nails as being devoid of the power of decomposing the bioxide of hydrogen.

To sum up, we may say that whenever the bioxide of hydrogen is decomposed by an animal tissue, the tissue acts by means of its peculiar microzymes.—*Bulletin de l' Acadèmie de Medicine June* 13, '82.

SCHMIERSEIFE.—By Dr. Senator.—Within the last few years the pharmacopœa has been enriched by so many new and very effective drugs, that we are not surprised to see some of the older remedies falling into disuse. This has not been the fate of green soap. On the contrary, it has of late attracted more attention than formerly. Several years ago, Dr. Kapesser, announced that in green soap we possess an excellent agent to effect absorption in chronic inflammations of lymphatic glands. His report has been substantiated in many quarters. Senator has convinced himself that these chronic swellings decrease in size in a remarkably short period. Kapesser found that it acts almost specifically in scrofulous and tuberculous inflammations. Senator has come to the conclusion that green soap effects absorption as rapidly as ung. hydrarg. or tinct. iodine without being followed by the ill effects of the two latter. In most cases we have to deal with subacute or chronic troubles. He employed this remedy in two classes of chronic inflammatory affections of lymph glands, viz.: multiple adenitis lymphatica and leucæmia lymphatica. In neither is its value so exemplified as in syphilitic lymphatic swellings, in which other specific symptoms have disappeared. In six to eight cases its use resulted either in absorption or diminution in the size of the indolent bubos.

More numerous are his observations as regards the efficacy of green soap in cases of exudations in serous cavities and synovial membranes. Pleural exudations of four to six weeks standing, in which an operation was deemed advisable, and circumscribed peritonetritic exudations disappeared under its use. In like manner chronic exudations which remained after an attack of acute rheumatic arthritis were absorbed. The author attaches more importance to this remedy in cases which are considered dangerous and in which recovery is a rarity—pericarditis. He reports five cases treated successfully. These were cases of young individuals in whom the articular affection had almost disappeared, but the febrile state still remained. Green soap was used externally to hasten absoption, as iodine is generally used, combined with the external administration of digitalis.

He attaches the greatest importance to cases of acute peritonitis with purulent exudations. Of these he reports two. The first was one of acute peritonitis following perimetritis. This was primarily treated by the ordinary method, with external application of grey ointment. Suddenly there appeared an exacerbation of symptoms and the exudation increased. Green soap was now employed and from day to day a diminution in the quantity of the exudation could be noticed. The fever abated. In consequence of severe physical disturbance there occurred a relapse, and the patient died in collapse.

The other case was as follows:

Patient 28 years of age was admitted to the hospital September 21st. Had been healthy previous to this attack, which began with dull pain a few minutes after eating, in the region of the stomach. On the day previous to admission, he felt a sudden pain in the epigastric region. The following afternoon he vomited a green watery mass. Condition at that time: Anxious face, constant abdominal pain, which increases on pressure, abdomen somewhat swollen, no rise in temperature. Urine contains large amount of indican. 2d day. Inunctions of green soap and morphia subcutaneously. 5th day. On percussion, dullness, showing extent of exudation well marked. Pulse 84. Frequent desire to defecate but only slimy stools. 11th day. Decrease of area of dullness. No vomiting, and normal passages. Patient dismissed after four weeks. The author by exclusion, diagnosed this a case of perforating peritonitis, which as a matter of fact is accompanied by low temperature. This class of cases is generally considered absolutely fatal, only one case reported by Traube, ending in recovery. Traube's treatment consisting in large doses of opium, warm poultices and inunctions of grey ointment every two hours. The author describes another case which was attended by high fever, great tenderness, œdema and severe dyspnœa, improved after the use of green soap.

The inunction of green soap, hence, gives us as good results as iodine and grey ointment.

Senator recommends, as a rule, to rub it thoroughly in the locus affections, two to four times. As soon as the surface becomes reddened, we should desist. For private use, he employs a more elegant form — Sapo kalinus with oleuni lavandulæ 50:1.

The excellent results may be attributed 1st, to the mechanical effect of the rubbing; 2d, that by means of the massage, an inflammatory irritation is started in the tissues and the exudation absorbed; and 3d, to the probable liquifying power of the potassium.—*Deutsche Med. Zeitung.*

G. A. F.

The Use of Hot Mustard Baths in Catarrhal Pneumonia, and in Engorgement and Congestion of the Lungs.—By F. Peyr Porcher, M.D., Professor in the Medical College of the State of South Carolina, Charleston—In a brief article in the *Medical News*, Philadelphia, April 29th, 1882, Dr. E. Stuver, of Wyoming Territory, relates the case of a child 20 months old, which recovered from an attack of "catarrhal pneumonia" of great severity. There was unconsciousness with a temperature which reached 106.8°, pulse 150, respiration 65; other means failing, the warm bath was constantly employed, with the invariable result of diminishing the temperature. We note that another writer in a medical journal, issued during the past year, has urged the importance of hot mustard baths in extreme cases of collapse occurring in pneumonia, on account of their diverting to the surface and reviving the patient.

A case similar to the above having fallen under our care, in which *hot mustard baths* were of such marked—we may say, extraordinary—benefit, that though death finally occurred, we feel constrained to relate the circumstances, in order to encourage others to a more frequent resort of such powerful measures. Though it be true that every physician orders foot-baths, and we esteem it essential in the treatment of scarlet fever that at least two full baths should be used daily, yet, notwithstanding, we are inclined to shrink from the use of full hot baths in those weakened by disease—from a vague fear that they will add to the prostration.

We were called, April 12th, 1882, to see E. E., aged 4 years, in convulsions, following exposure during an attack of whooping-cough. There was a high fever for five days, with engorgement of the right lung—catarrhal pneumonia, apparently—but with no crepitant râles or very marked dullness; frequent cough and great difficulty of breathing were present—the pulse ranging for days from 120 to 150 by the watch, the respiration from 52 to 60, and the temperature from 100° to 105°. A distinct morning exacerbation occurred at 11 o'clock, and another during each night, without malarial cause, and, notwithstanding the use of quinine, cold sponging to the head, hands and arms, and hot mustard foot-baths. When the worst symptoms were developed, when the breathing was most difficult, prostration greatest, death seemed imminent, and all other means ineffectual, we had recourse to dry cupping to the back of the chest, the use of thapsia plaster[1], and mustard baths, as hot as they could be borne, in which the entire person was immersed. These baths were used repeatedly during five days, whenever the oppression was greatest, and the condition so desperate that nothing else seemed to offer any hope. The baths, far from weakening the patient, were invariably beneficial. At one time, several days before the fatal result, the child was in so deplorable a plight, and the oppression and suffering so great, that at the earnest entreaties of the friends, and with a view to the euthanasia, an enema of 10 drops of tincture of opium, with starch, was administered, followed in twenty minutes with 10 drops, and then 20 drops. These large quantities for a child of her age did not produce the slightest ill effects. The little girl was so much better, the fever and other symptoms having disappeared, that we refrained from remaining all night, as we had done for five nights. The patient was sitting up and apparently convalescing. A sudden change in the weather, possibly some imprudence with regard to clothing, etc., caused a return of the symptoms, and death ensued, much to our regret. She had been twice considered entirely out of danger. We have never, in all our experience, been so convinced of the value of full hot mustard baths, and their inocuousness with regard to the strong fears we entertained of their adding to the prostration, etc.; the little patient rallied after each bath, and, as in the instance related by Dr. Stuver, there was a reduction in the temperature and pulse, in the oppression, and the freqency and violence of the cough. It may be added that a few drops of the syrups of squills and ipecacuanha, with flaxseed tea, were occasionally given; but the following extemporaneous combination, used every three or four hours, for several days, seemed to act most beneficially:

℞ Mur. Ammonia, ʒ ss.
Carb. Ammon., grs ii.
Spts. Mindereri., ʒ iiii.
Tinct. rad. Aconiti, gtt. v.
Syr. Senega, to ℥ i. M.

S. Teaspoonful in a little water when the cough and oppression are violent.

As nourishment was constantly given—Valentine's juice internally, and nutritive enemata—and all active medication avoided, there was no great loss of flesh, even up to the termination of the case.

"American Dyspepsia" was the title of a paper read by Dr. J. H. Robbins before the Massachusetts Medical Society. The reader inclined to the opinion that the same delicacy of stomach prevails in Great Britain and on the European Continent as in this country, but he announced that in considering dyspepsia among our own people, he wished to emphasize the fact that, more than of anything else, it is the result of neurosal causes. American dyspepsia seems to be without a morbid anatomy. Some of the principal causes assigned for it are rapidity in eating; unsuitable or improperly prepared food; over-eating, a very common bugbear; the use of ice-water; and the universal use of fine flour. One great principle in nature is apt to be overlooked by theorists, viz.: the very remarkable power of the human system of adapting itself to all sorts of dietetic conditions, and even enormities, and appearing to thrive upon them. Causes of a neurosal nature have a much more extended and detrimental effect on digestion than those previously mentioned. The evil effects on the digestive processes of bad news, fear, worry, mental strain, is well known to every physician, while the pleasurable emotions, a contented mind, success, etc., contribute to relieve dyspepsia. These neurosal causes operate with especial power upon the present generation of the Anglo-Saxon race. Our parents and grandparents expended, to a great degree their own vital powers amid the rapidly-changing scenes of a new country, and have transmitted to their children delicate and neurotic constitutions.

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[1] In the case of a child also with engorged lungs and fever, during the past week, which recovered, a thapsia plaster, inadvertently allowed to remain on for twenty-eight hours, was not productive of any ill results.

"Among the causes which are acting upon large classes of our population are, 1st. The manner of rearing our children, who, weakly at the start, are forced into precocity by various means; 2d. School teaching; 3d, Lack of simplicity and honesty in living; 4th. Business strain, worry and apprehension; 5th. The present unsettling of religious beliefs; 6th. The state of the weather; 7th. Valetudinarianism.

"We may be powerless to stay or modify the influences of the present phase of our civilization upon the nerves and stomachs of the Anglo-Saxon race in this country, but by being aware of these influences we may find means outside the materia medica to benefit many a patient to whom drugs alone can bring but little help.—*Medical News.*

EFFECTS OF THE NEW CHOLAGOGUE, TOLUOLDIAMINE, UPON THE ANIMAL BODY.—Stadelman, from a series of experiments upon dogs, first confirmed the fact noticed already by Schmiedeberg, that this agent was capable of causing decided and lasting jaundice, and next proceeded to determine its cause. His observations made upon animals, both with biliary fistula and without, were carefully conducted, and demonstrated that, in general, within twenty-four hours after the administration of the remedy by the stomach, hypodermic or intravenous injection (the first being slower than others, as a rule), bilirubin and biliary acids appeared in the urine, but hæmoglobinuria occurred in only one out of between thirty and forty cases. The effects of the remedy remained only for a few days. The author believes that the results are to be explained by a resorption icterus, due either to duodenal catarrh or some acute disorder of the capillary circulation in the liver; the blood-pressure, however, in other cases, was not altered, at least within three hours after giving a full dose (3 grm.) of the remedy. Where the biliary fistula existed (it had been *in situ* for eighteen months, and the dog was well), in both cases polycholic first occurred, under the influence of which the icterus began; later there was a marked thickening of the bile, which apparently afforded an opportunity for reabsorption of the bile. It is noteworthy that in cases of biliary fistula, a much greater quantity of the remedy was required than in others, and, besides that, the jaundice rapidly disappeared.—*Zeitschr. für Exp. Pathol.*, etc., xiv., p. 231; *Med. Wissenschaften*, No. 21.

THE MORPHINE HABIT AND ITS TREATMENT.—It is in Germany, says Dr. Landowski, that the morphine habit has the most victims. It was introduced there after the war of 1866. He who disregards the numerous special institutions in that country for the treatment of this malady, is guilty of disrepect to the highest classes of society. Among every 157 consumers of morphine there are reckoned 55 physicians.

According to Burkart, the circulation is especially affected by the morphine; it producing first an acceleration, and then a retardation of the heart's action. As a result of this we have venous stases and numerous visceral hyperemias. Tremulousness and exaggerated perspiration are constant symptoms of the abuse of morphine. The urine nearly always contains sugar and not infrequently albumen.

We will not here dwell upon the variety of nervous disorders and the uniform train of symptoms well known to every physician.

In regard to the treatment, there are two methods: the abrupt suppression of the drug gradual suppression of it. The abrupt method is dangerous, and may even induce fatal collapse. It is much more prudent to gradually diminish the quantity of the morphine, at the same time giving small doses of opium. It is often useful to deceive the patient when he is intractible, by injecting pure water rendered slightly bitter by sulphate of quinia. A proper preventive measure would be the prohibiting druggists selling the drug twice upon the same prescription.—(*Journal de Ther.*) *Lyon Médical, June*, 1882. J. M. F.

HEADACHES IN CHILDREN.—When a child complains of headache our most careful scrutiny is demanded, and if it be too young to describe its sufferings its manner and appearance are highly suggestive of some cerebral disturbance. Look at the little child of some ten or twelve months old, who is well developed and comes of healthy parents. There is the excitement of dentition, and the little thing is observed to put its tiny hand to its head, which it rolls, perhaps, from side to side, and the anxious mother at last detects a slight irregularity in the muscular movements of the eyeball. Reflex nervous irritation is conveyed through the fifth nerve to the brain, and irritation so awakened may be followed at any moment by a convulsion. The child is wakeful, uneasy and restless. The brain, so needful of rest at this early period of life, is susceptible of mischief. I think there is hardly a practitioner among us who on looking back has not, in the course of his early experience, had reason to to think he has overlooked these significant symptoms, and at the same time felt surprise at having neglected them. Habitual headaches in older children indicate an exhausted and irritable brain, and if intellectual exertion be carried too far in such cases mischief is likely to ensue. It seems extraordinary that educated men who have the care of young persons should not see this danger in the anemia produced by overstudy, the irritability and excitability of manner, and the impossibility of concentration, so necessary to the accomplishment of any undertaking. If intellectual exertion be carried beyond a certain point the brain becomes anemic, fatigued, and the nutrition in the ganglionic cells of the cortex becomes impaired, diseased, or in some way altered from health. Whatever may be the exact change in these cells, due, perhaps, in a great measure to the absence of healthy blood, the inference is most probably correct that children so suffering can not readily grasp new ideas; and if strong and powerful efforts are put forward in this direction the knowledge is not retained, the object is frustrated, one idea is mixed up with another, and confusion results. This, I apprehend, is just enough to illustrate the grand problem that the body must be looked to as well as the mind; and the yonnger the child, the greater is the delay of intellectual training. And it does strike one as very extraordinary that the nervous system, which is the last to attain complete development, should be the first to be overtaxed in this age of forcing and strain, when revolutionary ideas are apt to overrule the judgment. It is not that the moderate exercise of the brain in early life is injurious; on the contrary, it is conducive to health. The mind is then flexible and plastic, impressions are enduring, and habits of concentration are easily acquired. It is the premature and excessive exercise of it which is prejudical when the bodily powers need the chief attention.

No rigid rules, no cast-iron system will do for the training of all children. All are not cast in the same mold. Any system of education must be elastic, since mediocrity is the rule; and if more be expected of some children whose physical development is at the same time feeble, then disease or premature ill health is the consequence.

Headaches are often hereditary. They have attacked children of the same family who have been brought up at a distance from one another, and whose surroundings have been quite different. In such cases there is something peculiar in the nervous system itself—a tendency to nervous disease. It will, I think, be found on inquiry that the parents of such children are liable to nervous disease, nervous exhaustion, paralysis, etc., and perhaps some children of the family have had epilepsy, chorea, or asthma. In many instances too, there is some faulty condition of the blood. The brain, badly nourished through a scanty suppiy of blood, and that poor in quality, loses its balance and can not resume its tone.

I will now briefly allude to some of the varieties of headache in children. Neuralgic headache (one-sided headache) is not a very common type in children, but it oftener occurs than is generally supposed. So far as experience goes, it has been met with chiefly among three classes of children: 1. Those of the neurosal temperament, whose nervous system is easily fretted, excited, and therefore sooner exhausted. If such children are pressed too much with their studies, then they the more readily suffer. Any degree of intellectual exertion is excitiug to children of timid and delicate constitution, who are not only too anxious to learn, but can not throw their studies off the mind. 2. Those children who have been reduced by some long and exhausting illness, in-door confinement and bad air. 3. Those born of delicate parents, and who are badly fed.—W. H. Day, M. D., in *Medical Press and Circular.*

ANÆMIC MURMURS OVER THE CARDIAC REGION.—The genesis of these murmurs is still very obscure; their seat even is by no means clearly fixed. It is commonly said that they are produced in the pulmonary artery, and there alone; but they are often to be heard at the apex, and are at times louder there than over the pulmonary. At other times they have their maximum intensity over the mitral orifice. They are generally systolic, but cases are reported where they have been heard as diastolic. With respect to their pathogenesis, the accredited opinion, held even by Trousseau, is that they are vascular, and produced by the vibrations of the liquid vein traversing the *ostium pulmonare.* This latter is held to be in a state analogous to spasm dependent on the degree of anæmia. Lately, however, a demonstration has been attempted that such murmurs are extracardiac, or rather, extravascular. Grancher says that they owe their rhythm to the heart, but their sonorousness to the lung. In other words, the blood-wave traversing the pulmonary artery communicates an impulsive shock to the lobe of the lung which overlaps the *conus*, and, the contained stratum of air being thus set into vibration, gives rise to the murmur heard. The hypothesis at least deserves consideration.—*Gaz. des Hop.*

TREATMENT OF FACIAL NEURALGIA.—*La Clinica de Malaga* recommends crystallized aconitia as a powerful, almost sovereign, remedy in idiopathic facial neuralgia. Where the complaint has its chief seat over the infra-orbital foramen, and exhibits, at the same time, decided periodicity in its recurrence, quinine, which is usually administered, has its effect much enhanced by the addition of aconitia. The combination acts certainly and rapidly. Formula:

℞ Quinia Sulphatis, 0·20 centigramme.
Aconitiæ Nitratis (crystal.) 0·025 centigr.
Pulveris Cinchonæ. q. s.

S. To be given in the form of pill, of which four or five may be taken in twenty-four hours, allowing at least four hours between each pill.—*Revista Med. Quir.*

IODOFORM IN DIABETES.—The last drug introduced into the treatment of diabetes mellitus is iodoform, which Prof. Moleschott, in a recent communication to the Academy of Medicine at Rome, states he has found to be very beneficial in five cases of that disease. The quantity of sugar excreted rapidly diminished in all cases so treated. Small doses are sometimes productive of good results, but as much as forty and fifty centigrammes may be administered daily with impunity. The Professor employs cumarin—the odoriferous principle of the Tonquin bean—to overcome the unpleasant smell of iodoform. He prescribes—iodoform, 1.0; extract of lettuce, 1.0; cumarin, 0.1; to be made into twenty pills with powdered gum arabic, and to proceed from one pill twice to two pills four times in the twenty-four hours.—*Lancet*, June 3, 1882.

TREATMENT OF DIPHTHERIA BY BORACIC ACID.—Dr. Atkinson employs boracic acid in diphtheria, for the reason that it is a powerful non-irritating disinfectant. His formula is as follows:

℞ Acidi Boracii	gr. xv—xx	
Glycerine	ʒ i	
Infus. Rosæ	℥ vi—vii	M.

This can be employed as a gargle, or may be applied by means of a brush several times daily. This local treatment should not be carried on to the exclusion of general treatment, which should consist of iron, wine, and nourishing diet.—*Journal de Therapeutique, May* 25, 1882.

DIAGNOSTIC VALUE OF ALBUMINURIA.—Bouchard observed that in examining an albuminous urine, it is sometimes possible to make coagulum retract by heating it, in other cases this cannot be done. Though the chemical cause of this phenomenon is unknown, he notes that the pathological conditions have a relation to its presence or absence. Whenever this retraction of the coagulum appears, we can pronounce that the origin of the albuminuria is either renal, vesical, or vaginal. In by far the greater number of cases, where no retraction can be produced by heat, the albuminuria results from the destruction of blood-heat, the albuminuria results from the destruction of blood-corpuscles or tissue-wear. To this class belong the albuminurias observed in lead and mercury-poisoning, where there is no concomitant renal lesion. Those albuminurias, depending on the general state of the health, are transitory; while those symptomatic of renal lesion have a very different prognosis. The non-retractile, transitory albumen is observed in typhoid, erysipelas, pneumonia, pleurisy, and occasionally in rheumatism; moreover, in certain grave cases of chlorosis, in diabetes saccharinus and insipidus, and in polysarcia.—*Presse Méd. Belge.*

THE PARASITE OF MALARIA.—At the Sociéte Médicale des Hopitaux, M. Leveran read a paper on the parasite nature of malaria. His conclusions were as follows:

(1) Parasites are always present in the blood of patients suffering with malarial intoxication.

(2) The number of the parasites is in direct proportion to the severity of the case.

(3) The parasites are found in the greatest number at the beginning of the attack.

(4) The peculiar parasites of malaria are only found associated with malaria.

(5) They disappear with the relief of the symptoms of the disease.

(6) Experiments can not be undertaken to any great extent, because malarial fever is not inoculable on animals.—*Médecin Practicien, June* 24, 1882.

ADMINISTRATION OF TANNIC ACID.—Tannic acid often gives bad results when administered internally if it is prescribed in a powder or a simple solution. Sometimes no effect whatever is produced, and sometimes there are pains and even inflammation of the stomach and intestines provoked. At the polyclinic in Leipzig these inconveniences are avoided, and an astringent mixture taken readily by children is made by forming the albuminate of tannin after the following formula:

Tannic acid	2 parts
Water	100 "
White of egg	100 "

The white of egg should be added to the mixture of water and tannin slowly and during continual agitation.—*France Medicale, May* 2, 1882.

MILK FOR INFANTS—Abstract of an Address by Dr. Lynde before the Massachusetts Medical Society.—The prevailing custom with physicians and nurses, if circumstances prevent the nursing of the infant, is to use cow's milk diluted with one, two, or three parts of water, and with various other additions; but the orator held that with care in the selection, management, and feeding of the cow, we can modify the milk product, and secure a food infinitely nearer human milk than any artificial mixture can be. And he stated that for thirteen years, when for any cause it had been necessary to resort to any other food than the mother's milk, he had used undiluted cow's milk, and failed only in three instances to raise the child.—*Med. News.*

IODINE IN CHLOROSIS.—This remedy (*Bull. de Ther., La Presse Médicale*) is recommended expressly in those cases of chlorosis in which iron has proved inefficient or injurious. One teaspoonful of the remedy, as given below, in a glass of water, taken twice daily, after meals, will in two or three months entirely relieve the disease (Dr. Trassons, of Nantes):

℞ Iodini	gr. xv
Potassii Iodidi	ʒ iss
Aquæ Destillatæ	℥ x
M.	

J.M.F.

ON THE TERMINATIONS OF SENSORY PERIPHERAL NERVES.—Krause (*Archiv f. Microscop. Anat.*, Berlin, 1880-1, xix., p. 53), in a long and carefully worked-out article, describes the various terminations of sensory peripheral nerves, to which he applies the collective name of "terminal corpuscles." They all have the common feature of the ending of the nerve filament in a bulbous or flattened knob, surrounded by the so-called "inner-bulb," derived from the cells originally nucleated, which have formed the sheath of Schwann. The outer coats are derived from the altered perineurium of the fibre. He enumerates thirteen varieties of terminal corpuscles in the different classes of vertebrata, which form a series of gradually increasing complexity.—*Archives of Dermatology.*

SURGERY.

Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Diseases.—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F. R. C. S. (Continued from our last issue.)

Mr. President and Gentlemen,—I hope I have made it sufficiently clear that I am not purposing to trouble you with any list of the idiosnycrasies; as well for your relief as my own exculpation, it is perhaps desirable that I should again make this statement. What I said about egg poisoning in my last lecture was intended to suffice as an illustration of what is possible, indeed, I would suggest not infrequent, in reference to a whole group of food idiosycrasies. The same remark applies to the somewhat detailed discussion on the susceptibilities in reference to tobacco. We are engaged in the examination of the laws of idiosyncrasy, and not in any attempt to record exhaustively its facts. I shall bring before you no more narratives of cases or statements as to facts that may seem absolutely necessary to illustrate the general laws to which we refer. In Monday's lecture we glanced briefly at certain peculiarities of structure which are sometimes met with in external parts which are congenital and heriditary. For these I propose the name of structural idiosyncrasies, and asked that we should apply the knowledge that we can easily gain respecting them to those which are much more obscure, from the fact that they are betrayed only by derangement of function. I next alluded to certain forms of inflammatory disease not present at birth, and in most cases not commencing until a considerable period after it, but concerning which the general facts suggest that they must be due to some inborn peculiarity of the structure implicated. Lastly, I adverted to examples of complicated or secondary idiosyncrasy in which the individual peculiarity is not displayed immediately on the application of its exciting cause, but waits as it were for the co-operation of other influences. We found one of our best illustrations of this in the chronic poison denoted chiefly by amblyopia to which heavy smokers are in exceptional instances liable. I I concluded my lecture by a brief allusion to idiosyncrasies in reference to arsenic, and was obliged by want of time to defer until to-day what I have to bring before you on the important subjects of the iodides and similar salts. I shall be obliged to omit altogether what I had prepared in reference to belladonna, opium, and certain other drugs, an omission which I shall regret the less because, as just said, I am seeking only for illustrations of law, and of these perhaps we shall have enough. The iodides and bromides offer us indeed, such excellent and various illustration of the laws of idiosyncrasies that I am almost tempted to wish that I had excluded all others and thus secured more time for the consideration of them. The modes in which these salts can produce disagreement are exceedingly varied, and concern very different parts of the system, whilst many of them are displayed by the skin in a manner which permits of their easy identification and examination. Not even the syphilitic virus itself is capable of producing such a multiplicity of pathological changes in the integument. Now it is a hemorrhage, now a thrombosis, now an erythema, now a bulla; the commonest of all forms is an acne, but in addition to it and those which I have named we may have pustules, button-like tubercles, and in aggravated cases enormous soft tuberous growths. If time had permitted me I should have taken occasion to advert also to a topic of much importance to us in operative practice, and should have suggested that in a considerable number of the accidents with anesthetics it is idiosyncrasy which we encounter. Many of the deaths from chloroform occur to persons apparently in perfect health, and when only small quantities have been given and with every possible precaution. Such cases ought probably be placed side by side with those in which individual susceptibility becomes unexpectedly revealed to us in reference to such drugs as opium, belladonna, and the like. We waste our labor when we search for proof of heart disease, or for some flaw in the apparatus, or for some want of care in the administration. The last patient in whom, under my own care, we came near to a fatal event with chloroform, was a man at Moorfields, in whose case extraction of cataract was about to be performed. He would certainly have died but for the vigorous use of artificial respiration and the nitrite of amyl. In discussing the case afterwards I was reminded by our house-surgeon that three years before, when the other eye was operated on, the same man had caused us alarm by similar symptoms. The occurrence had unfortunately been forgotten. It is probable that there are persons in whom, owing to peculiarity of nerve organization, and not in the least to anything which we can recognize as ill health, the inhalation of chloroform will always cause an extreme depression of the heart's action. In such, if the precaution of giving beforehand a dose of opium, alcohol, ether, be omitted, there is the utmost risk of a fatal event. Probably each anæsthetic related conditions of idiosyncrasy.

I have passed over also another subject owing to want of time which has considerable surgical interest. It is the influence of inherited structural peculiarities in favoring the occurrence of lesions which at first sight suggest no suspicion of such origin. Examples we have of this in the easy occurrence of dislocation, owing to peculiarities in favoring the occurrence of lesions which at first sight suggest no suspicion of such origin. Examples we have of this in the easy occurrence of dislocation, owing to peculiarity in joint formations and the proneness to intussusception of the bowels, owing to the cæcum of the ascending colon being provided with a mesentery. I have several times known the tendency to intussusception, to show itself in several members of the same family, and in some of the most marked instances in which several of the children had died of it in succession, the condition referred to was found at the autopsy of one of them.

I now turn to the subject of the idiosyncrasies in reference to the iodides and bromides. It seems probable that the difference in form which the inflammation of the skin assumes is dependent upon peculiarities of the individual, for if the patient has shown a tendency to an unusual development of the iodide rash on one occasion, and the same salt be given to him on another, even after a long interval of time, it will produce exactly the same effect. This I have witnessed repeatedly. Idiosyncrasies as regards the iodide are not manifested solely by the skin, are perhaps not primary in it, and seldom confined to it. Congestions, with excessive secretion of certain tracts of mucous membrane, are of yet more frequent occurrence than are skin rashes, but they differ from the latter in that they are, in a majority of instances, only transitory. An eruption on the skin, once developed by the iodide, is not manifested solely by the skin, is perhaps not primary in it, and seldom confined to it. Congestions, with excessive secretion of certain tracts of mucous membrane, are of yet more frequent occurrence than are skin rashes, but they differ from the latter that they are, in a majority of instances, only transitory. An eruption on the skin, once developed by the iodide, persists—and indeed becomes increased—so long as the drug is given; sometimes even after it has been suspended. The iodide coryza, as it is called, on the contrary, seldom lasts more than a few days; or if it becomes chronic, always subsides into a slight affair. Thus the one would appear to imply idiosyncrasy in a far less degree than the other, and this suspension is borne out by the observation that in those who suffer from any of the more serious forms of skin eruptions there are usually other evidences that the drug is producing injurious effects. The tone of the nervous system is always lowered by it, and sometimes to an alarming extent. There is, perhaps, no drug that can be mentioned respecting which variations in the degree of idiosyncrasy are so great. I have repeatedly known doses of only half a grain to produce, in the course of a couple of days, definite symptoms of poisoning; and, on the other hand, I have known a patient to swallow an ounce and a half a day of the best Apothecaries' Hall iodide for a week together without any special effect, except a feeling of lassitude and a want of tone. It is also very remarkable how, in a large majority of cases in which definite and peculiar susceptibility is at first manifested, tolerance may subsequently be attained, and doses of ten, twenty, thirty times the amount given without obvious effect. Probably there is no drug respecting which the assertion can be more easily demonstrated, then it is not the dose, but its effect, which we should regard. It by no means follows that because a patient has an idiosyncrasy against some drug or article of diet, that we ought wholly to abstain from its use. Rather this susceptibility, in the majority of cases, proves that in him minute doses will effect the cure first as efficiently as larger ones in others. I have repeatedly cured tertiary ulcerations of the throat and skin in patients in whom I was assured iodide was a poison in all doses by giving it in quantities of half, or even a third, of a grain. In the year 1862 Mons. Bazin, of Paris, an excellent specialist, and at the same time an excellent physician, described a new disease under the name of hydro. Of this malady he recognized several varieties, one like varicella, one resembling small-pox. Reading M. Bazin's description I was at once struck by the closeness with which they applied to several cases which had been under my care, and in 1876 I wrote in the *British Medical Journal* a report on "hydroa," quoting M. Bazin's description, and recording my own cases together with others supplied to me by my friends. I had previously been to Paris and seen M. Bazin's models. At the time neither of us had any idea of the usual cause of the eruption, nor, I believe, had any of our readers or critics. One of the latter suggested that we had not named it correctly, and that it was only urticaria bullosa, but in doing this he gives us no clue to its cause. At this date we all knew of the acne which so commonly results from the iodide, but were not aware that this salt could in connection with idiosyncrasy produce other symptoms so much more formidable. In the season of 1869 Dr. Cholmondeley brought before the Clinical Society an example of a remarkable confluent eruption produced by the bromide: several papers had also appeared in Paris on the subject, and subsequently I convinced myself that the disease to which we had given a new name was really the bullous form of the iodide eruption. From that time to this I had seen but very few examples of "hydro" except as the consequence of iodides or bromides. It will be seen that we had made no error in observation, but had simply described and named a disease which was new to us, and new to medical literature, but of which at the time we had not discovered the cause. When the cause was found the name became of little importance. As already hinted, however, we have by no means in mentioning the iodide acne, the iodide "hydro," concluded the list of symptoms due to this drug. Respecting a case which I have to mention in the next group, I shall not be surprised if many remain still in doubt as to whether it ought to be placed in this position. A man came to me at the London Hospital covered with huge soft tumors, some of them as big as a child's fist. They occurred chiefly in his face, chest and limbs. That I may avoid a lengthy description, I will simply refer you to a sketch on the wall, which is a rough copy from an excellent drawing which I now display. It will be enough to say that the moment I saw it I believed it to be an iodide eruption, and that my diagnosis was based upon the recollection of other cases unquestionably due to that cause which I had previously seen. The man had just been discharged from another hospital, and on inquiry I found that during his month's stay in it he had been steadily taking the iodide in increasing doses the whole time. The eruption was not present in the least before the drug was begun. The patient died within a fortnight of his admission under my care from exhaustion, apparently due to the extent of surface implicated. The post-mortem revealed nothing which threw further light upon the cause of his malady.

It seemed probable that he had never had syphilis. He had gone into the hospital on account of another complaint, and when the eruption appeared it was considered to be syphilitic, and instead of suspending the remedy, its dose was increased. The dose was never more than fifteen grains three times a day. To those who are still inclined to doubt whether this terrible eruption was really due to the iodide, I admit I have no right to be surprised if the number comprises all my audience. I would put the question, What else could it be? The microscope showed in the tubers only the results of common inflammation, and there was nothing in the least suggestive of malignancy. Above all, I would ask that a careful comparison be made with the other drawings which I have placed by its side. It will be seen that the two closely resemble each, and differ only in the greater severity in the case I have just described. In the essential features of the eruption they are exactly alike. Now there is not the slightest question as to the cause of the eruption in No. 2. It was produced by the bromide of potassium, and it occurred in connection with the drug twice to the same child. I may here remark that I know of no difference between the eruption due to iodides and those due to bromides. The same variety occurs, I think, in both, and the general laws as to idiosyncrasy are the same. The iodide, however, depresses the system far more than the bromide. The eruptions produced by bromides are, I think, attended by less constitutional disturbance, even when locally very severe, than are those due to iodides. A case well illustrating this came under my notice a few weeks ago. I was asked by a medical friend to see an infant in whose case the diagnosis had been varicella, and next small-pox; complete isolation had been enforced, but as the eruption had steadily got worse, and the child now at the end of a month remained perfectly well, all had become convinced that there was a mistake in diagnosis. I have mentioned the names which had been given to the eruption as the best means of suggesting the appearance it at first assumed, and I may add that the surgeon who attended the case was an experienced and sagacious man. The infant, when I saw it, was fat and smiling, but with its face and all four extremities absolutely covered with large buttons of most formidable appearance. Many of them had scabs, but none of them had ulcerated much. At first I was told that the eruption was present before a medical man was consulted, and before any medicine had been given, but on pressing for accurate dates, I found that my suspicion was correct, and that the surgeon was first consulted for a slight feverish cold, for which he prescribed small doses of bromide of potassium, and that the rash did not begin to appear till three days later. No suspicion having been entertained, the bromide had been continued until the day of my visit. My friend told me that he was very fond of the bromide for children, and had given it in thousands of cases, but had never before seen any eruption produced. In looking back on the experience of former years, I recollect several cases under my own care, and that of other surgeons, in whom I think there is good reason to suspect that persistence in the iodide caused death. They were cases in which an eruption which was probably due to it alone was mistaken for a specific one, and the drug pushed still further. In the report which I published in the Clinical Society's "Transactions" I have published two cases in which our eyes were opened only just in time. They were all cases in which the salt had been continued for some weeks. It may be possible, however, for fatal poisoning to occur in connection with the first few doses. In the case of a man admitted into the London Hospital some years ago, only two or three doses had been taken, and an eruption which looked like hæmorrhagic variola had been produced, together with such an amount of swelling about the neck and throat that nothing but the prompt performance of tracheotomy could have averted immediate death. The facts respecting this case were published by my colleague, Dr. Stephen Mackenzie, and the same indefatigable observer has placed upon record the most extraordinary example of iodide poisoning with which I am acquainted. In this instance an infant, æt. five months, died of iodic purpura after a single dose—two grains and one-half.—*Medical Press and Circular.*

THE ADMINISTRATION OF CHLOROFORM.—The *Gazette des Hopitaux*, at the end of the *resume* of the prolonged discussion on this subject which has just terminated at the Academie de Médecine, furnishes the following account of the rules of procedure observed by a *collaborateur* who has been much employed with constant success, in the administration of chloroform during the last ten years:

1. The compress is to be preferred to all other means. A handkerchief is to be had everywhere, and alarms the patient less than anything else.

2. Fold the handkerchief into the form of the mouth of a horn, and keep it closely pressed against the point of the nose; but only pour the chloroform on the part of it which is not directly in contact with the skin.

3. Its application should be intermitted, but this need not be done in the precisely regulated manner recommended by Professor Gosselin.

4. Give very little chloroform at the commencement, in order to accustom the patient to it and prepare him for the feeling of suffocation. Then, when the first inspirations are over, pour on the chloroform very often, otherwise much time will be lost and complete anesthesia obtained only with difficulty.

5. Before making the application take care that no article of dress constricts the patient, removing even the string of a cap.

6. Expose the epigastrium, and from the very commencement keep the eye upon it, and constantly watch the respiration, without caring about the pulse.

7. Always have a forceps within reach.

8. As soon as the respiration becomes noisy and stertorous, remove the compress and allow the patient to breathe fresh air for a time.

8. When respiration is arrested, seize the tongue with the forceps and draw it out, and immediately commence artificial respiration. If the respiration is not established after a few seconds, place

the head low, forcibly flagellate the cheeks, keep the tongue out, and continue the artificial respiration for five, ten, fifteen, or even twenty minutes, if necessary.

9. When the respiration is noisy, pass into the back of the throat a sponge mounted on a forceps, in order to remove the mucosities existing there, as they frequently do in patients suffering from colds.

10. There is but one contra-indication to the employment of chloroform—namely, advanced phthisis. Affections of the heart are not contra-indications.

11. Hysterical subjects should be distrusted.

12. Alcoholic subjects are very long and difficult in being brought under the influence of chloroform, but they may take it without danger. —*Medical Times and Gazette.*

POSITION OF THE STOMACH AND THE RELATIONS OF ITS FORM AND FUNCTION.—Professor Lesshaft, of St. Petersburg, has come to the conclusion that the stomach has a vertical position in the abdominal cavity. The fundus touches the diaphragm; the pyloric orifice looks towards the right; the lesser curvature also to the right, and its upper part somewhat downwards; the greater curvature towards the left. It lies in the left hypochondrium and epigastrium, and the pyloric orifice lies in a line prolonged from the right border of the sternum. When the stomach is distended it cannot alter the position of its parts in consequence of its connection with neighboring parts, but must dilate uniformly according to the extent to which it is filled. The muscular coat of the stomach consists of longitudinal, circular, and oblique fibers. The longitudinal fibers go from the fundus to the pylorus, the circular layer becomes thicker towards the pyloric orifice, and is most marked at the pyloric sphincter. The food introduced into the stomach is thus moved along the gastric walls towards the pylorus, so that it can be readily mixed with the gastric juice. It then returns along the middle line of the stomach back towards the fundus. The peripheral movements of the gastric contents from the fundus to the pylorus and its central return are only rendered possible by the peculiar form of the stomach, The absence of the fundus in newly-born children, and its appearance later can only be explained by the central ascending current of the gastric contents. The form of the stomach and the distribution of the muscles render the retention of food in the stomach easily comprehensible, and also the slight and gradual passage into the small intestine during the first part of the digestive process. When gas accumulates in the transverse colon, it may rise upwards in a loop to the left of the stomach as far as the fourth intercostal space, or even to the fourth rib. When gas accumulates in the loops of the small intestine they rise upwards behind the transverse colon, and in such a case the lower part of the stomach may turn somewhat forwards, and the organ may assume a more oblique position from above and behind downwards and forwards. Even when the stomach is large, and large quantities of food are taken at a time, it always retains the vertical position, and only the pyloric part turns upwards and to the right, where it becomes continuous with the duodenum. The spleen normally lies at the posterior and upper part of the greater curvature towards the middle of the fundus. It corresponds to the ninth intercostal space, and reaches with its upper end almost to the vertebral column.—*Virchow's Archiv.* vol. lxxxvii. p. 69.

RESECTION OF THE PYLORUS. — Lauenstein (*Centralblatt f. Chir.*, No. 9, 1882) attempted the resection of the pylorus on the third of January, of this year, in a woman aged thirty-four years, with symptoms of cancer of the stomach, confirmed by the detection in the epigastric region of a tumor the size of the fist. In the operation an unexpected difficulty was met with; the stomach was closely adherent to the omentum, both at the greater curvature and by its posterior wall, necessitating the application of a very large number of ligatures, and the loss of a great deal of time, the operation lasting five hours. No unfavorable symptoms developed until five days after the operation, when peritonitis set in and rapidly proved fatal. The autopsy showed that the transverse colon was gangrenous at the point where the attachments to the stomach had been destroyed.

In a case reported by Ledderhose (*Deutsche Zeit. f. Chir.*, xxi., 1882), the stomach was bound down to the pancreas, which was only recognized after having been cut; it was then attempted to free it by dissection, so causing considerable loss of blood and time, and requiring the use of the thermo-cautery. The operation lasted five hours, and the patient died during the course of the day from probable heart paralysis.

Nycolaisen (*Berlin. Klin. Woch.*, 3, 1882), was equally unfortunate in the extirpation of the pylorus attempted on a woman presenting symptoms of cancer of the stomach with a perceptible tumor at the level of the eighth rib on the right side. Collapse occurred as the patient was recovering from the chloroform, and in spite of the administration of stimuli, she died in the course of the night.—*Gazette Méd. de Paris.*—*Medical News.*

THE CURE OF EPILEPSY BY LIGATURE OF THE VERTEBRAL ARTERIES.—Dr. William Alexander reports, in the *Medical Times and Gazette*, five cases of epilepsy greatly improved by tying one or both vertebral arteries, and states that the three cases previously reported (*ibid*, November 19, 1881) have remained free from fits from that time. As all of the cases were nearly or quite idiotic, and confirmed epileptics, the results are no less astonishing than gratifying. The operation is performed by making a linear incision outside of the sterno-mastoid muscle, and outside of the veins which converge to the lower third of the outer border of that muscle. The subcutaneous tissues are next cautiously divided, until the finger can be inserted into the loose fatty tissue that lies inside of the scalenus anticus muscle. Upon retracting the sterno-mastoid, with the subcutaneous veins and the internal jugular vein, towards the middle line, the sulcus, towards which the vertebral artery runs, is exposed, when a little scratching with a director will expose the vessel, the ligation of which is then a matter of routine.

A curious physiological fact was noticed. When the vessel is ligatured, the pupil on that side becomes contracted, and in the majority of cases it remains so. Tying the opposite vertebral, the opposite pupil contracts, and the pupils again become equal. The effect upon the mental condition of the patient is good, both directly and indirectly, and the intelligence is decidedly improved. Dr. Alexander has tried this operation in hereditary cases, and in epilepsy following scarlet fever, blows, fright, and in cases where no cause could be ascertained. In all the effect was beneficial and mostly curative, so far as time permits him to judge. Further observation may establish this as the best method of treatment of confirmed and otherwise hopeless epileptics.—*Medical Times.*

THE ABSORBTION OF SEQUESTRA.—At the Société de Chirurgie, Paris, M. Launelongue reported some experiments which he and M. Vrignal had made for the purpose of finding out whether sequestra could be absorbed. These observers placed pieces of bone or of ivory in the tibiæ of rabbits and found that after a certain time the pieces had disappeared by a peculiar process of absorbtion.

The following conclusions were arrived at:

The absorbtion of sequestra can be shown by experimentation.

The suppuration of the capsule, surrounding the sequestrum, is an obstacle to this process, but this suppuration only lasts a short time and is succeeded by the growth of an embryonic tissue, the granulations of which surround the sequestrum and penetrate the slightest openings, causing absorbtion in a way the various steps of which could be easily followed by means of experiments. Dead bone is quicker and more easily absorbed than ivory.

INJURY TO BLOOD-VESSELS IN DISLOCATION OF THE SHOULDER.—Dr. W. Koerte reports three cases of dislocation of the shoulder, in which reduction was followed by axillary aneurism and this in its turn by sepsis and death. He recommends the following course to be adopted in the treatment: 1. In case of an axillary aneurism, which has developed rapidly and which may be easily diagnosed, ligating the subclavian artery. 2. In cases in which there has been a moderate exudation of blood, without the characteristic signs of anemia, compression of the tumor and rest to the parts. Should the tumor grow and pulsation and bruit become manifest; also ligature of artery. 3. If the tumor has existed for some time and pulsation does cease even after compression, then incision and double ligation of the wounded artery is the only course to pursue, although not attended by much hope.—*Deutsche Med. Zeitung.* G. A. F.

ABNORMAL STYLOID PROCESS AS A CAUSE OF DIFFICULTY IN SWALLOWING.—In No. 5 of the *Wien Med. Woch.* Prof. Wienlecher relates two cases which have occurred to him during the course of his practice, in which a hard body, causing some pain and some difficulty in swallowing, was found on examination with the finger to consist of a prolongation of the styloid process from a commencing ossification of the stylo-hyoid ligament. Both occurred in women, and in one of the cases he gave relief by making firm pressure and producing an audible fracture of the body, although in a few months the inconvenience recurred and was relieved in a similar manner. In the other case the inconvenience had persisted for three years, and an attempt to produce a fracture failed.—*Med. Times and Gaz.*

COMPLETE REMOVAL OF THE LARYNX, PHARYNX, TONSILS AND BASE OF THE TONGUE.—*La Escuela de Medicina* reports the case of a patient upon whom Dr. Caselli operated for the removal of an ulcerated epithelioma, involving the larynx as far as the vocal cords, the pharynx and the tonsils. Two months after the operation the patient could swallow as well as ever, and by means of an apparatus made for her by M. Gaffari was able to speak very plainly, without any of the disagreeable intonation noticed in those patients fitted with the larynx invented by Gussenbauer. It is now about a year since the operation and no return of the disease is apparent.

Four deaths under chloroform have been reported recently as occurring in various parts of England. Ether may be slow; but it seems to us that chloroform, as the man said of Croton oil pills, is sometimes unnecessarily hasty. — *San Fran. West. Lancet.*

OBSTETRICS.

VIABILITY OF PREMATURE CHILDREN.—Professor Spath recently expressed himself as a believer in the very early viability of premature children (*Wien. Med. Zeitung*, May 20, 1882). After speaking of the generally-accepted opinion that children are not to be considered viable until after the completion of seven lunar months' gestation—twenty-eight weeks (the Prussian law pronounces a fœtus viable that has been carried thirty weeks)—he went on to say that his own observations warranted him in making the statement that a fœtus could be kept alive out of the sixth month even. Of course, the sixth lunar month is from the end of the twentieth to the end of the twenty-fourth week of utero-gestation. Particular care would naturally be demanded in bringing up such youngsters. Enveloping the child in cotton wadding was an admirable method of preventing loss of the low degree of body-heat such children possessed. The weakness of the digestive powers should be met by giving such milk as contains but a small amount of casein. As observation shows that the milk of women becomes richer in casein the longer they suckle, only young girls should be made choice of as wet-nurses who have been recently confined. It was also necessary that the young person should have long nipples; for, as the infant would be too weak to suck and swallow, the nipples ought to project deeply into the mouth, so that the milk might, in a manner, run of itself into the stomach. Professor Smith himself had a case under observation in which a child born *in* the sixth lunar month was successfully brought up in the manner above stated, the child being, at the present time, six years old, and quite as well grown and strong as its brothers and sisters at full term. He remarked, in conclusion, that the great mortality of premature children was easily comprehended when one bore in mind the ordinary high death-rate during the first year of infant life.

CATHETERIZATION PREVIOUS TO APPLICATION OF THE FORCEPS.—Dr. James More lays down the following rules on this subject:

The use of the catheter in the parturient female is indicated. 1. When the patient has not vomited for some time. 2. When there exists over the pubis a distinct tumefaction other than that produced by the fetus. 3. When the contraction of the uterus is accompanied by severe pain, especially if the pain is not of an expulsive character. 4. When the uterine pains suddenly cease. 5. When the labor has continued a long time without the engagement of the head. 6. When there is a vaginal cystocele.

After delivery the circumstances which necessitate catheterization are: the absence of urination for at least ten or twelve hours; the inability of the patient to micturate because of vesical inertia. The recognition of a supra-pubic tumor and the occasioning of pain upon pressure in the hypogastrium are the symptoms which mark the development of this complication.—(*Rev. des sciences med.*) *Lyon Medical.* J. M. F.

EXPERIMENTAL PRODUCTION OF ABDOMINAL PREGNANCY.—Dr. Leopold, of Leipzig, reports in the *Archiv fur Gynakologie* experiments in transplanting from the uterus of one rabbit to the abdomen of other nonpregnant rabbits, embryos of two and a half to six and eight centimetres in length, the largest being as near maturity as could be obtained. In one peritonitis followed with death of the animal. The embryo was, however, disintegrated. In the other the animal lived and the fœtus became encapsulated. When death took place from peritonitis on the second day, no trace of the smallest embryo could be found, it having been absorbed. Where no inflammation has set up, the animals were killed at periods ranging from three to seventy days. As a rule the fœtus had become encapsulated. The very small one, however, had entirely disappeared by absorption, no trace being left. In the older and larger ones, parts of the muscles and the skeleton, and cartilage remained with some growth of bone. From the results, Dr. Leopold concludes that extra uterine pregnancy ending in rupture of the sack is perhaps more common than is generally believed, the symptoms being those of pelvic hæmatocele, and the case ending in absorption of the fœtus.—*Chicago Medical Review.*

PARSLEY AS AN ANTILACTIC.—Dr. Stanislas Martin, (*Bull. de Thérap*) after observing that the use of mineral waters interrupted the secretion of milk, states that, as an external application, parsley-leaves act most efficaciously in dispersing it, and that they were used for this purpose by the Roman matrons of old. The breasts should be covered with freshly plucked leaves, and these should be renewed several times a day as fast as they begin to fade. The dispersion of the milk soon takes place. Dr. Dujardin-Beaumetz confirms Dr. Martin's statement, and adds that in Asia Minor parsley in the form of large cataplasms is used by the women as an ordinary domestic remedy.—*The Practitioner.*

OTALGIA FROM REFLEX DENTAL IRRITATION.—Dr. Bryson Delavan, M.D., of New York, contributes this article to the *American Journal of Otology*:

Otalgia due to reflex irritation, is probably of more frequent occurrence than has heretofore been supposed. Not to mention the commonly-observed phenomenon of pain in the ear, accompanying acute affections of the tonsil, it is well known, also, as a not unusual and an extremely painful complication of tubercular, cancerous, and syphilitic disease of the pharyngeal region. The writer has seen two cases where otalgia, due to malignant disease of the pharynx, was treated locally for a considerable length of time before the presence of the cancer was recognised.[1] Although it is not strange that irritation in other parts of the buccal cavity, equally remote from the ear, should result in the same reflex neuralgic symptoms, it is remarkable that they should occur upon the side *opposite* to the point of irritation. As illustrating the possibility of this, however, the following case possesses interest.

The patient was a finely-developed, well-nourished girl of about twenty, with clear complexion, active circulation and every apparent indication of robust health. Her family history was excellent, and there was no suggestion of any heredity. She had always enjoyed perfect health, with the exception of an attack of double otitis media, at age of seven. At this time there was a purulent discharge from both ears. Since then has always been slightly deaf in the right ear. The present attack began with pain in the right ear. The pain was constant and throbbing, with occasional paroxysms of lancination, and was much more severe at night. This condition grew worse, producing almost complete insomnia. She was seen four days after the beginning of the attack. Examination with the otoscope revealed both tympani in a healthy condition, with no sign whatever of inflammatory action either of the external or of the middle ear. Rhinoscopic examination failed to discover any cause in the pharynx, both the tonsils and the parts in the retro-nasal space being remarkably free from hyperæmia. The upper teeth were perfect. In the lower jaw the right second molar was slightly carious, while the right wisdom tooth had not yet made its appearance. On the left side the wisdom tooth was through, but the second molar was wanting. Patient stated that several years ago this latter tooth had decayed and come out. Application drainage-tubes in the dressing of wounds. He gives the following directions.

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[1] "Primary Epithelioma of Tonsil."—*New York Medical Journal, April,* 1882.

The tube should be short and wide, and should not be in contact either with the bone or the ligature of the chief artery.

Tubes are grey, black, or red. They should be made from laminæ of pure caoutchouc cut with the saw, vulcanized, and desulphurized. Good tubes may be recognized by (1) the transverse markings left by the saw; (2) their lightness; they should float on water; (3) their strength; they should bear being tripled in length without breaking.

Bad tubes are made from sheets of paste made up with shreds of caoutchouc, zinc white, minium, etc. If grey they remain so after being dipped in an alkaline solution. Grey tubes have not been freed from sulphur, and this separates and irritates the wound: they should be avoided. Red tubes which have been desulphurized by soaking three hours in a hot ten per cent. solution of carbonate of soda may be safely used. Black tubes answering to the above tests are the best of all.—*The Practitioner.*

ANTISEPTIC DUSTING POWDER.—Dr. Klamann (*Deutsche Med. Zeitung*) recommends the following powder as a means of healing and of preventing intertrigo in infants.

℞	Magnes. ust. subt. pulv.	6 grammes
	Talci veneti pulv.	20 "
	Acidi Salicyl.	0·2 "
	(Mist. oleos. balsam.	10 minims).

To this may be added alumen ustum when greater astringency is required, and the salicylic acid may be replaced by boracic acid. Dr. Klamann uses this in intertrigo, eczema, and erythema, and finds it to act rapidly and certainly. He has also applied it with good effect in eczema capitis, and to raw surfaces produced by blisters. *The Practitioner.*

AMONG the wide-spread and steadily increasing race of bores, a high place must be claimed for those fussy and objectionable people who, under cover of social relations, persist in endeavoring to obtain a medical opinion without payment of a fee. An old lady the other day asked an eminent London surgeon, who was beside her at a dinner table, what was the best "cure for corns." To this the surgeon replied: "You can adopt no better plan, my dear madam, than to grease the corn over night with a tallow candle, when I venture to say you will find the corn kicking about the bottom of your bed next morning." The old lady was profuse in her thanks, but the surgeon cut them short by adding, "I should say, my dear madam, that it would still be on your foot."—*Can. Med. Jour.*

RESEARCHES ON ANIMAL HEAT.—D'Arsonval (*Comptes rendus*, etc., 1881, p. 83), finds that the quantity of heat evolved by the body does not correspond either to the amount of oxygen absorbed or carbonic anhydride excreted in a given time. Many reactions in the body are accompanied by an evolution of heat without formation of carbonic acid, and, in some cases, as Moilessier has also shown, the absorption of oxygen and evolution of carbonic acid is accompanied (*e.g.*, in the incubating egg) by an absorption instead of a liberation of heat.—*Archives of Dermatology.*

A DELICIOUS BEVERAGE.—Acidulated drinks are refreshing, especially in warm weather, but the constant use of lemons or limes is apt to interfere with the regular action of the bowels. Horsford's Acid Phosphate, with water and sugar only, makes a delicious beverage, which allays the thirst, aids digestion and benefits the whole system. It cures the lassitude so common in midsummer, and relieves the exhaustion following excessive mental or physical labor. Many prominent physicians have used it in their practice, and give it their unqualified approval.

THE staid old *Chicago Medical Journal and Examiner* has just found out that the Tonga trade-mark suit of nearly a year ago, has been settled. We suppose, that in the course of a year or so, the same staid old journal will take up the subject of Garfield's wounds, or Guiteau's insanity. We would not be surprised if it soon announces the discovery of the circulation of the blood, or vaccination, as a novelty. Great is Chicago!—*Peoria Medical Monthly.*

[And the *Peoria Medical Monthly* is its prophet.]

THE necrology of both Harvard and Yale this year is of interest as showing the tendency to longevity among educated men, according to an exchange. Of the seventy-eight dead in the Yale list for the year, thirty-one were seventy years or over, the average being over seventy-seven years. In each list the extreme age reached was ninety-six years. — *Boston Med. and Surg. Journal.*

THE third annual session of the American Surgical Association was held in Philadelphia, May 31, June 1 and 2. A considerable number of excellent papers were read and discussed. Prof. S. D. Gross was elected President, and Dr. J. R. Weist, of Indiana, Secretary. The next meeting will be held in Cincinnati, O., next May.

LIKE the Massachusetts Medical Society the Harvard Medical School has refused to undertake the education of women as doctors. Sixteen out of twenty votes of the medical faculty were opposed to it.—*Detroit Lancet.*

CONSOLING TO DOCTORS.—"Der Lord sees lal tings,' und it was a consoling thought to some of der dochters dot der Lord don'd vill tell."
—*Carl Preitsel.*

Dots shust so.

As a tonic for nervons prostration or exhaustion and want of vitality, HARTER'S IRON TONIC has never failed to do all that is claimed for it. It has given us complete satisfaction.

DRS. RIPLEY & WALTON.
Philadelphia, Pa., July 5, 1882.

Original Communications.

EPITHELIOMATOUS GROWTHS AND CONTIGUOUS GLANDS.

By E. W. Walker, M.D., Cincinnati, Ohio.

The object of this article is to attract attention to a very important point connected with epitheliomatous growths situated in connection with the cutaneous surface. The points spoken of below do not refer to epitheliomatous tumors connected with mucous membranes. The question to be answered is as follows: Are the lymphatic glands contiguous to an epitheliomatous growth specifically affected? By specifically affected is meant, will the tumor be reproduced in the enlarged neighboring glands if the original tumor is removed? Are the microscopic appearances of a gland secondarily enlarged contiguous to an epitheliomatous tumor similar to the microscopic appearances of the original tumor?

According to a large majority of authors, it is an established fact that if the lymphatic glands in the neighborhood of an epitheliomatous growth are enlarged the prognosis is bad. It is bad because the tumor or growth will reappear in the secondarily enlarged glands. That this is the case in carcinomatous growths is acknowledged by all recent authorities. Clinical experience proves that when the lymphatic glands in the neighborhood of carcinomatous tumors are affected, even if the original tumor is thoroughly removed the growth will reappear in the affected glands. The disease has become, in other words, constitutional. Clinical experience, according to my limited observation, does not show that to be the case in glands enlarged from the presence of epitheliomatous growths.

In the case of glands enlarged in the neighborhood of cancerous growths, microscopical examination will show that the histological structure of the infiltrated gland is similar to that of the original tumor. In the limited number of examinations that I have made, I have failed to detect in lymphatic glands, enlarged from the presence of an epitheliomatous growth, anything like the structure of the original tumor. This refers to glands contiguous to and not continuous with the tumor. That the glands in the neighborhood of epitheliomatous tumors are enlarged is established without a doubt. The enlargement is due to an increase both of the cellular elements of the gland and also to an increase in the stroma or trabecular substance. It is an enlargement due simply to an increase in number of the histological elements of the gland. This increase is due to the irritation caused by the original tumor. The enlargement of glands in the neighborhood of an ulcer or excoriated surface is due to the same cause. It is simply an enlargement due to what is called sympathetic irritation. That epitheliomatous growths connected with cutaneous surfaces are not followed by secondary growths or metastases in different parts of the body is acknowledged by most authorities.

If the glands far removed from the original tumor are affected specifically, why is it that we do not have a farther lymphatic enlargement? Why is the disease not constitutional, and why do not secondary deposits take place in different parts of the body? With an epithelioma affecting the foot or the calf of the leg and the glands in the groin greatly enlarged, it would seem impossible for these to be specifically affected without a farther glandular infection.

Almost every physician can call to mind epitheliomatous growths, connected, for instance, with the lower lip, in which although the glands of the neck were much increased in size, still after the complete removal of the original tumor the hypertrophied glands gradually assumed their normal size. The glands were enlarged by irritation and when the point of irritation was removed the glands began to assume their normal size. If the tumor has lasted for any length of time the glands may undergo caseous change, break down and the contents be discharged.

The ulcer produced by the breaking down and discharge of the contents of one of these caseous glands, heals by a slow process of granulation, just as ulcers, due to the same cause, in strumous subjects do. Frequently the granulations are exuberant and on the slightest irritation bleed considerably. This fact, it is probable, has caused some authors to look upon these fungous growths as a reproduction of the original tumor. In several cases of glandular enlargement in which the glands had undergone this caseous change, nothing being left but the thickened capsule filled with caseous matter, a careful examination of several sections, made in different parts of the capsule, failed to show anything characteristic of an epitheliomatous tumor.

If the irritation has not lasted so long the glands are firmer. In cases of this sort, in none of the specimens of enlarged contiguous glands, was the result different. If the glands are secondarily specifically affected, the microscopical examination ought to show their structure correspondingly changed. Examinations of glands enlarged slightly, shortly after the commencement of the tumor and of the capsule of the glands after they have broken down, have, in my hands, always resulted in the same way.

Epitheliomatous growths ulcerate, but never undergo caseous change. If this is the case it is difficult to explain how the glands having the same structure, as the original tumor, can so frequently undergo this change. The cachexia frequently associated with epithelioma is due most probably, not to any constitutional affection or secondary affection of the glands, but to the constant discharge and frequent slight hemorrhages that take place from the ulcerated surface of the long standing tumor. The importance of remembering the non-specific enlargment of the glands in connection with tumors of this class, if this enlargement be non-specific, is in regard to the removal of the enlarged glands. Enlarged glands in the axilla, secondary to cancer of the breast, it is agreed by all writers ought to be removed, no matter in what condition they are. So it is with glands anywhere in the body secondary to cancer. The law is, remove them if possible. If what has been stated in this paper is correct the case is different in enlarged glands associated with epitheliomatous growths. If the original tumor has lasted for a short time and the lymphatic glands are slightly enlarged, as stated above, in most cases, if the original tumor is removed, the glands return to their normal condition. They may, in rare cases, become caseous and break down.

It is safe, however, to allow them to remain, as in most cases after the removal of the tumor they return to the normal size, being the source of no further trouble. If the glands are caseous, or if the subject is strumous, the best plan, most likely, is to remove them, not on account of the danger of a secondary tumor appearing there, but for two other reasons. In the first place, if the caseous matter bursts through the capsule, the healing of the ulcer will be very slow, much slower than if the glands are removed. In the second place, the glands ought to be removed so as to rid the patient of the liability to miliary tuberculosis starting from the glands as caseous foci.

ACCORDING to Prof. Weiss there occurs one death to every 2,873 cases of inhalation of chloroform; one death to every 23,700 inhalations of ether; and one to every 300,000 inhalations of nitrous oxide gas.

A CONTRIBUTION
TO THE STATISTICS OF SMALL-POX IN CINCINNATI.

Being a Paper read before the Cincinnati Medical Society June 27th, 1882.

BY T. H. KEARNEY, M. D.,
Late Physician to the "Branch Hospital."

Dr. T. H. Kearney read the following history of the cases of small-pox admitted to the Cincinnati Branch Hospital during his service:

Total admissions to Branch Hospital from March 3, 1881, to April 30, 1882	446
Deduct cases of other diseases or no disease	21—425
Total mortality	144
Per centage	33.88

In the first hundred admissions there were					31	deaths.
" 2d.	"	"	"	"	32	"
" 3d.	"	"	"	"	37	"
" 4th	"	"	"	"	37	"

According to the records of the Health Office, the death rate throughout the community at large, for the same period was 27.08; and certain figures recently published in the New York *Medical Record* puts the death rate from small-pox in New York last year at 30.1 per cent. Of the patients admitted to the Branch Hospital, forty-six were boatmen, all but five being colored. Out of these twenty-five died.

Table No. II.

NATIVITY OR RACE.	Tot'l Number of cases.....	Deaths........	Per centage of Deaths...
American	157	58	30.6
German-American	31	17	54.44
German	116	13	11.2
Colored	95	50	52.63
Irish	13	4	30.77
All Others	13	2	15.4
	425	144	

The group of thirty-one cases in "Table 2" designated German-American, consists of young persons, all under 20 years, the children of German parents. The fact that so many of them were young children should be borne in mind in contemplating the high mortality rate they show. But other causes were, doubtless, still more distinctly concerned in promoting that result.

Table No. III.

CLASSES ACCORDING TO NATIVITY OR RACE.	Good Scars........	Fair Scars........	Bad Scars........	Said to have been Vaccinated but no marks Evident......	Never Vaccinated....	Vaccinated, but Character of Mark Not recorded.........	Unknown........
Americans—Recoveries, 99...	43	13	9	5	23	1	5
Deaths....... 58...	8	6	3	7	27		7
Ger.-Americans: Recov' 14...	4	2			8		
Deaths....... 17...	1		4	1	9		2
Germans—Recoveries....103...	60	23	12	3	5		
Deaths......... 13...	4	2	1	2	3		1
Colored—Recoveries...... 45...	15	8	2	3	16		1
Deaths........... 50...	2	6	5	7	29		1
Irish—Recoveries.......... 9...	7	1			1		
Deaths......... ...... 4...			1	1	1		1
All Others—Recoveries. 11...	5	1	2	2	1		
Deaths........ 2...	1			1			
425...	150	62	39	32	123	1	18

Table No. IV.

	IN 274 RECOVERIES		IN 132 DEATHS	
Good Cicatrices	134	48.9 %	16	12.12 %
Fair "	48	17.52 "	14	10.61 "
Bad "	25	9.12 "	14	10.61 "
No Evidence of Vaccination but Statement	13	4.74 "	19	14.4 "
Never Vaccinated	54	19.71 "	69	52.1 "

Tables 3, 4, and 5 exhibit very interesting facts relating to vaccination and its bearing on the mortality from small-pox.

Observations on this important subject were made and recorded carefully. In a small number of cases, however, no facts as to vaccination could be ascertained. In table 3 the numbers in the different classes are given of those who were and were not vaccinated, together with the character of the vaccination marks. Table 4 is intended to show the proportions of recoveries and deaths following the various degrees of vaccination, and among those who were *never vaccinated*. The most casual observer will be struck with the almost regular inversion of proportions in the second and fourth columns of this table. These statistics while affording no evidence of the degree of protection afforded by vaccination, nor of the proportionate liability to small-pox of those who remain unvaccinated, yet, it must be admitted are strikingly suggestive, in showing, as they do, that the class of recoveries present the larger percentage of well-marked vaccinations (48.9), and the deaths the smaller, (12.12); while conversely, the subjects of fatal disease who were *never vaccinated* bore a much higher proportion to the whole number (52.1), than did those who recovered independent of the influence of vaccination, (19.7.)

Again, comparing the results in 150 patients with *good vaccination scars*, and 123 persons *never vaccinated*, we find the mortality in the former class to have been 10.67, while in the latter it was 56.1 per cent.

The foregoing figures contrast very strongly, and do not appear to admit of any other interpretation than one favorable to the *modifying* influence of vaccinnation. The question of re-vaccination is not touched in these statistics. It may be remarked, however, and with much confidence, that the proportion of patients admitted who had been re-vaccinated successfully was exceedingly small. This statement would be highly significant could it only be backed up with figures in proof of its absolute accuracy.

Table No. V.

NATIVITY OR RACE.	Percentage of Patients With Good Vaccination Scars......	Percentage of Patients Never Vaccinated......................	Mortality per cent................
Americans..	32.48	31.85	30.6
German-Americans..	16.13	54.84	54.84
Germans..	55.17	6.9	11.2
Colored..	17.89	47.37	52.63
Irish..	53.84	15.4	30.77
All Others...	46.15	7.7	15.4

In Table 5, will be seen exhibited the proportions in the different classes of patients, of those presenting the evidence of *good vaccination* and of those *never vaccinated*. The third column of the table gives the death-rate in the several classes. The last two classes in the list include numbers too small to afford deductions at all reliable, and are introduced mainly for the sake of completeness, and as they appear in other tables. Leaving these latter out of the account, it will be observed that a close correspondence is maintained between the mortality rate and the percentage of unvaccinated cases.

According to this table, also, the Germans are the best vaccinated class, and their children the worst!

This fact suggests the question, "Why do our German fellow-citizens neglect this important measure of protection, who were themselves so well cared for, in this particular, in their native country? Why do they deny their own offspring the great benefit they received themselves in the Fatherland?—a benefit that seems to be clearly shown in these figures, and which has been much more forcibly set forth time and again. Is it to be explained as merely a recoil from the pressure of governmental authority that is remembered with aversion, perhaps; the feeling of opposition engendered by compulsion passing into an abiding prejudice against the object of that compulsion? Or, is it to be ascribed to the teachings of those to whom these people naturally look for intelligent and sound advice in all matters relating to their health? Be the reason what it may, the fact of this opposition to vaccination is a misfortune, not to Germans or German-Americans only, but to the whole commmunity. For every individual who obstinately persists in remaining susceptible is a weak point—a point vulnerable to the attack of the enemy at some time. And when once that enemy has gained a foothold in the citadel, then all are endangered in a much increased degree, the strong and the weak both. This very important fact certainly justifies the doctrine that in this direction, at least, there should be a limit to personal freedom. For the exercise of freedom in this case by one man may entail frightful consequences on some other. Even under a government like ours, "Of the people, for the people, and by the people," the interests of the majority should, in this matter as in others, be held paramount to those of the minority.

Table No. VI.

CLASSES.	Under Five Years............	Five and Under Ten..........	Ten and Under Twenty....	Twenty and Under Thirty	Thirty and Under Forty ..	Forty and Under Fifty......	Fifty and Under Sixty.......	Sixty and Over..................
Americans.....	13	11	26	72	29	2	3	
German-Americans......	6	7	18					
Germans......			6	77	14	12	5	2
Colored.......	4	8	16	55	7	3	2	
Irish............................			1	8		3		1
All Others....................			1	5	5	2		
Totals.................	23	26	68	217	55	22	10	3
Deaths......	13	12	22	66	21	6	4	
Percentage of Deaths...	56.52	46.15	32.35	30.41	38.18	27.27	40.	

The number of cases in the different classes, happening in various periods of life, together with the mortality in those periods, are shown in table 6. It will be seen that much the largest proportion of cases occurred in the decennial period, commencing at twenty. This is, also, probably the period of the lightest mortality, although the decennary, commencing at forty shows a still lower death-rate, but the smallness of the figures in that column must be taken into account. It is not likely that the figures in this table will be found to differ materially from other observations on this point.

Table No. VII.

Day of Eruption...	Number of Deaths	Day of Eruption...	Number of Deaths	Day of Eruption...	Number of Deaths	Day of Eruption...	Number of Deaths
1st	1	8th	13	15th	1	27th	1
2nd	3	9th	11	16th	3	32nd	1
3rd	3	10th	23	17th	2	33rd	1
4th	10	11th	12	19th	1	40th	1
5th	13	12th	7	20th	1	Unknown	6
6th	6	13th	3	22nd	1		
7th	14	14th	5	24th	1		

The above table shows the number of deaths that occurred on various days of the eruption. Much the largest number on any one day occurred on the 10th. The next highest number, 14, happened on the 7th day of eruption. Next in order were the 5th and 8th, on each of which 13 deaths took place. The 11th, 9th, and 4th follow in the order they are mentioned.

Altogether, 29.7 per cent. of the deaths occurred later than the 10th day.

The days on which the eruption appeared in 320 cases, and the number of such cases occurring on each of those days is given below, reckoning that on which the earliest initial symptom was manifested as the first day of disease:

1st day	4 cases	5th day	28 cases
2nd "	51 "	6th "	10 "
3rd "	119 "	7th "	6 "
4th "	99 "	8th "	3 "

While the largest number occurring on any one day falls on the 3rd, yet, it will be seen the eruption appears in as many as 45.6 per cent. of the whole number after the third day. This statement is not in accord with the teaching that the variolous eruption comes out in 48 hours after the appearance of initial symptoms. It should be stated, however, that no distinction is made here between the different degrees or forms of the variolous disease; but the modified and unmodified cases are grouped together. This fact will, to some extent, probably explain this contradiction.

In one case the headache, pain in back, and vomiting seem to have appeared simultaneously with the eruption. And in another, several hours elapsed after the appearance of the eruption without other spmptoms, when severe headache and pain in the back came on.

The following list shows the frequency of the occurrence of the various initial symptoms in 360 cases of small-pox. It will, of course, be understood that two or more of them generally co-existed in the same case.

Headache	313	Pain in the back	247
Chills or chilliness	126	Vomiting	124
Pains in limbs	41	General pains	31
Pain in stomach	30	Pain in chest	27
Sore throat	19	Pains in other parts	18
Pain in side	13	Epistaxis	2
A feeling of "weakness"	1	Malaise	1

In eight cases there was no pain, and in one no symptom at all.

Headache, it will be seen, was absent in 47 cases, or 13.05 per cent. of the number; while pain in the back was absent in 113 or 31.4 per cent. Chills or a feeling of chilliness, doubtless, was present in a much larger number of cases than that given, special inquiry in regard to it not having generally been made, its significance as a symptom being so slight. Cases having had nausea as a symptom were not tabulated. Under the head of "vomiting" are included only the cases in which actual emesis occurred.

It is hardly probable that any conclusions can be reached from a study of the initial symptoms that would possess any prognostic usefulness. For out of 52 cases in which all three of the symptoms, headache, pain in the back and vomiting were present, 18 died. This is but very little higher than the general death-rate given heretofore.

In 81 cases the records show the temperature to have reached 105° and upwards. Of the cases whose maximum temperature ranged between 105 and 105.5° almost as many recovered as died. But of the 33 whose temperature exceeded 105.5° only 4 recovered—these ranging between 106 and and 106.3°. The 12 cases who had temperatures above 106.3° all died. One case was observed in which the heat went up to 107°. This temperature was reached on the sixteenth day of the eruption. The patient died on the 24th day with symptoms of septicæmia.

The lowest maximum temperature observed in a fatal case was 101.1°. There were altogether 9 fatal cases in which the highest temperature observed was less than 103°.

Ten patients had temperatures lower than 97.9. In two, the body heat fell as low as 96.3, and both these patients died. The eight other recovered. But while high temperatures cannot be exaggerated, provided the instrument used be correct, observations of low temperatures are, for obvious reasons, liable to be erroneous.

The highest temperature reached in 210 cases was observed on the

1st	day of the eruption	in	25	cases
2nd	" "	"	37	"
3rd	" "	"	41	"
4th	" "	"	37	"
5th	" "	"	10	"
6th	" "	"	16	"
7th	" "	"	12	"
8th	" "	"	3	"
9th	" "	"	8	"
10th	" "	"	5	"

In 52 out of the 425 cases hæmorrhagic symptoms of various degrees presented, being a percentage of 12.24. Of these 52 cases 3 recovered. Pleurisy 2 cases, pneumonia 1, acute phthisis 1, septicæmia 1, profuse epistaxis 1, Abortion 1, and Gonorrhœa 2, were complications observed in fatal cases; while a few cases of erysipelas, and one with marked typhoid symptoms, besides a considerable number with abscesses, constituted the complications met with among those that recovered. It is not improbable that a larger number of acute chest affections, than given above, complicated certain of the fatal cases. But the circumstances so often present in such cases make it often difficult to recognize these intercurrent affections before a fatal termination is reached. A very remarkable instance of rapid wasting was seen in a patient who had no wasting discharge to explain it. On the sixth day of eruption the emaciation was very striking, the intermetacarpal spaces being sunken in an extreme degree, and the muscles and adipose tissue wasted everywhere. Death occurred the following day.

Extensive sloughing of tissue took place in 4 cases, of which 3 proved fatal.

Two patients lost an eye each from general inflammation commencing in keratitis.

The foregoing statistics are presented with the hope that as they reflect some features of the disease as it prevails among us, and, perhaps, certain conditions peculiar to our own community; they will not be found to be without interest. They are offered with the frank admission that reliance can be placed in their accuracy only so far as pains and care are sufficient to secure accuracy; for, on certain points which are matters purely of judgment, accuracy can only be approximated in proportion to the soundness of that judgment. It should also be remembered that many of the supposed facts embraced in these tables are based on the statements of persons who were possessed of but limited intelligence, were often confused in mind in consequence of the physical ailment they suffered from, or who deliberately made false statements of their cases. Whatever the defects of these statistics, they may at least be accepted as entirely unbiassed. They were not compiled to suit any particular views or belief, nor to conform to, or differ from, the observations of any one else on the subject.

BOILED MILK IN THE SUMMER COMPLAINT OF INFANTS.

By H. V. Swerringen, M.D., Fort Wayne, Ind.

I was very much surprised to notice in a late number of a leading medical journal an editorial in which boiled milk is recommended as an article of diet in the summer diarrhœas of children. I know it has from time immemorial been the custom among mothers, grandmothers and nurses to stuff babes with boiled milk as a curative measure in this complaint, and that not a few physicians were following their example, but I had no idea that this treatment had been accepted by the profession, although I do not now remember of ever having seen any objection raised against it.

From about the first of July to the last of August, annually, I am obliged to repeat daily, and some days very frequently, my objections to this practice, and in some cases its mere stoppage was sufficient to effect a cure.

Milk contains albumen; boiling coagulates that albumen: What is harder to digest than coagulated albumen? The quality of pepsin is tested by the amount of coagulated albumen a given quantity will dissolve. You might as well feed your babes on cheese and hard boiled eggs; these articles will, like boiled milk, check for a time a diarrhœa, by reason of their difficult digestion, but that very difficulty of digestion will, sooner or later, produce a diarrhœa or increase one already existing. Give the babes milk and plenty of it *but do not boil it.*

PELLETIERINE, A RELIABLE REMEDY AGAINST TAPEWORM.

By H. Wilfert, M.D., Cincinnati, O.

Mr. Tanret, of Troyes, the discoverer of pelletierine (the active principle of the bark of pomegranate root), has of late put this anthelmintic in such a palatable form that it is taken without repugnancy on the part of the patient. It is imported in liquid form, put up in small bottles (fifteen grammes each), the contents of one of which constitutes a dose for an adult.

No subsequent dietetic measures are necessary, only omitting supper and breakfast before the following day when the medicine is to be taken. It causes no discomfort to the patient, and is quick in its action; in the last case the worm with its head was discharged one hour and a half after the cathartic was administered. It has, in my hands, proved to be the safest and most reliable remedy yet used against tapeworm.

Selections.

MEDICINE.

Infantile Mortality; Its Causes and Prevention.—Read at the annual meeting of the Massachusetts Medical Society, June 14, 1882. By James P. Lynde, M.D., of Athol, Mass.:

Mr. President and Fellows: The thirty-ninth Registration Report of Massachusetts is a valuable record of vital statistics, useful and interesting to the physician, the sanitarian and political economist.

From its carefully prepared tables we learn the relative mortality of the different diseases, as influenced by age and sex, that prevail among our people, and are enabled to study those that are wholly or in part preventable, that we may check their ravages and promote the public health.

We find that in the year 1880 our population was 1,783,085. The number of deaths were 35,292, of which "consumption, as in previous years, heads the list," with a mortality of 5,494.

We also find that there were born alive during the year 44,217 children. In the same period 7,190 died during the first year of life; 2,281 the second year; 1,250 the third: 857 the fourth; 635 the fifth; a total of 12,213 children who died under five years of age; 1,463 died between five and ten, and 611 from ten to fifteen, showing that with increasing bodily development there is decreasing mortality, and that the age of infancy is the most perilous period of life. The deaths of the first year are 16.26 per cent. of the births and 20.04 per cent. of the deaths. The deaths under five are 34.60 per cent., or a little more than one-third of the deaths.

This valuable registration report in its record of mortality, from "twelve of the most prominent causes in 1880," credits consumption with 5,494, pneumonia 3,076, cholera infantum 2,118 victims.

When we consider that cholera infantum is a disease that occurs usually in the first year of life, among infants artificially nourished, and that consumption and pneumonia occur during almost the whole remaining period, grouping about certain ages more than others, it is evident that the deaths from cholera infantum, and the diseases from infancy and childhood, are the most suggestive and important on the list of vital statistics.

It is also very evident that the infant at birth, and for a long time after, is weak, feeble, immature, imperfectly developed, unable to bear successfully the vicissitudes of climate, resist morbific influences, and maintain its hold on life against adverse circumstances and the ignorance and inexperience of those intrusted with its care; and we are not surprised to find this period of life attended with excessive mortality, some of the causes of which, and its prevention, claim our consideration.

1. Among these causes are prenatal hereditary influences and inherited tendencies to certain forms of disease, like scrofulous and syphilitic affections, in their many varied forms, and congenital disturbances of fœtal growth, often caused by perturbating influences, affecting powerfully the nervous system of the pregnant woman. These causes cannot be avoided; they are beyond the control of the physician. We can advise the expectant mother to live prudently, to avoid undue emotional excitement, preserve self-control, and maintain a serene, cheerful, happy state of mind and disposition. We can advise the unhealthy mother to raise the child with artificial food, and perhaps do something by medication to modify morbid constitutional tendencies, and thus preserve life. The number of still-born premature deaths for 1880 was 1,297.

2. Another important cause is the prevalence of acute infectious diseases, which are often severe and deadly. The most loathsome of these, smallpox, may be fully prevented by vaccination; and may we not confidently hope that by improved methods of treatment, either preventive or special, scarlatina and diphtheria will be robbed of their terrors and cheated of their victims? The deaths from this cause, under five in 1880, were 1909.

3. Another cause of this mortality is the severe acute inflammations, such as pneumonia, meningitis, and others; too often caused by exposure of the child, insufficiently clothed, to severe climatic influences, in accordance with the popular idea that such treatment makes a child tough, hardy, and vigorous; a most mischievous notion, as only the most robust can survive such treatment. Ignorance and carelessness have much to do with this cause of mortality, which, in children under five, in 1880, amounted to 2269.

4. Another cause is the great anatomical and physiological crisis of infancy, dentition, which with many children, is attended with slight disturbance of the general health or nervous system; but when we consider the active nutritive processes going on in the growing teeth and dental follicles, the hyperæmia, and turgescence of the surrounding tissues, the intense excitement of the local nerves, we are not surprised when this physiological process passes the bounds of healthy action, and through disturbed innervations causes functional and pathological changes in distant organs, requiring watchful care and judicious treatment on our part to overcome. Dentition is rarely dangerous, unless associated with other disturbing influences. It is therefore important that all morbid conditions due to other causes should be carefully investigated, or our treatment will be empirical, irrational, and unsatisfactory.

5. Infantile mortality is often increased by the unhealthy hygienic influences to which many children are subjected, such as breathing impure air; by living in small, close, dark, sunless, overcrowded, ill-ventilated rooms; exposure to cold; heat, filth, want of proper care and clothing, impure water, and unsuitable food. Mortality from other causes is greatly increased by these insanitary conditions, which are attributable in a large measure to parental negligence and ignorance, which can only be overcome by carefully instructing the people, and stimulating their moral sensibilities; a work which requires time and patient effort, but sure in the distant future to be accomplished. A large share of this responsibility rests upon our profession, and we should improve every suitable occasion to instruct, advise, admonish and warn the people. The perfect sanitary house and home has not yet been built by man! It is only to be secured in the mansions of the ideal, heavenly hereafter!

6. The influence of intense solar heat upon the mortality of infant life is well known, and so important that we cannot neglect its consideration. If we again consult this valuable Registration Report, we shall find that July, August, and September, the hot months of the year, are peculiarly fatal to infants, by the prevalence of diseases of the central nervous system and digestive organs, such as convulsions and cephalitis, diarrhœa, dysentery, and cholera infantum. To a certain degree, peculiar to each department of organic life, solar heat is an essential stimulant and excitant to all the processes of growth and nutrition. Above and below certain ranges of temperature, all forms of life are impossible. Our human life is a mystery, so is every manifestation of the life force in every aspect of investigation. Next to the mystery of thought is the mystery of animal heat; constant in man, in health, under all external conditions, at about 98.4° of Fahrenheit's scale. A few degrees above this point is speedily fatal, through change in the soluble albuminoid constituents of the tissues, arresting muscular contraction, circulation and respiration. The influence of solar heat upon human life can-

not be studied, except in connection with many other coincident conditions, which modify its effects, such as the moisture of the air, atmospheric currents, electric and magnetic influences, the state of the bodily functions, the supply of food and drink, clothing and exercise. Cases of insolation afford examples of its depressing influence and deadly power. The functions of perspiration and renal secretion are checked or arrested, and a condition closely resembling that of uremic poisoning is established, attended with convulsions, and congestions of the brain, lungs, and internal organs, great depression of the nervous system, a rapid rise of bodily temperature, and speedy death. The most important physical property of heat is its power to expand minerals, gases, and almost all substances subjected to its influence. It rarefies the air, so that the important function of respiration is imperfectly performed, less oxygen is inhaled, and the exhalation of carbonic acid is diminished. The gases contained in the tissues are expanded, the circulation is enfeebled, the secretions are checked, and the functions of the nerve centres which regulate circulation, respiration, and nutrition, maintain physical vigor, resist disease, and preserve the integrity of the organization, are greatly depressed, especially in delicate, ill-nourished, poorly-fed infants, living under unfavorable hygienic influences. The indirect effect of radiant heat on the health of children and older persons is important, through its power to excite and quicken the processes of fermentation and putrefaction, in foods of a perishable nature, such as eggs, milk, fresh meat, fish, bread, fresh vegetables, and fruits, rendering them unfit for consumption, causing gastric and bowel derangements, that may be severe and fatal. To overcome this powerful cause of infantile mortality, it is important that the child should be kept quiet at home in the largest, coolest room in the house, supplied with light clothing, frequent cool baths, fresh air, and pure water. If necessary, cool the air of the room by keeping ice in a tub, or by hanging a wet sheet near inflowing currents of air. The refrigerator is an indispensable luxury and necessity with the rich. An abundant supply of ice for the poor, in hot weather, would favorably affect the mortality of infants, and greatly increase the comfort, health, and happiness of such people.

7. We will now consider the most important of all causes of infantile mortality; the use of improper, indigestible articles of food—the prolific cause of gastric disturbance, diarrhœa, colitis, cholera infantum, and starvation. Milk has been divinely ordered as the only proper food for the young of all classes of mammalia, and Nature has made provision for a bountiful supply. Milk is an animal food composed of several elements in variable proportionate quantities, in a state of emulsion, each of which is essential to the growth and nutrition, and no one that is superfluous to to the necessities of the young mammal or human infant. In ordinary normal conditions, this fluid is abundantly and perfectly prepared in the mammary glands of the mother, and when properly administered fully meets the wants of the young child for both food and drink. Therefore it is a mother's most imperative duty to nurse, if possible, until several teeth appear, when it will desire, and be able to digest, animal and farinaceous food, and may be safely weaned.[1] The health and comfort of a child is greatly promoted by regular feeding, once in two hours and a half in the day-time, and twice in the night, and at longer intervals with increasing age.

We are often called to prescribe for children made sick by irregular nursing, every time they work or worry, who have been dosed with Mrs. Winslow's infernal syrup of morphine, and the whole list of domestic remedies, and now comes the doctor, who will be expected to lance its gums, administer alteratives, laxatives, alkalies, astringents, tonics, stimulants, digestives, and more opium, which he may do only to be disappointed, unless he can persuade the mother to properly administer its food. Succeeding in this, the child will recover without medicine, and he can cure it in no other manner.

Again, to keep a child in a growing, healthy condition requires tact and judgment in its general management. The good physician will often remind mothers and nurses of the importance of pure air, sunlight, suitable clothing, and cleanliness. He will advise the mother to avoid visiting and traveling in the hot months, and keep the child quiet and cool at home, and offer it cold water to relieve its physiological demand for fluids, and prevent it from overloading its stomach in nursing. He will advise frequent bathing to soothe, invigorate, and refresh its nerves. He will secure for it a good bed, at least when sick, and not allow it to be packed into a deep wooden box on rockers, with a rubber blanket or an old soiled comfortable to lie upon, with its head buried in a soft, hot feather pillow. A good-sized crib with a hair mattress, or a sack filled with clean oat straw, covered with a folded sheet, makes a good bed, especially in warm weather.

The good doctor will administer but little medicine for the disturbances incident to the process of dentition, for the child will not be well in hot weather, especially in the second summer, except under most favorable circumstances, until the teeth emerge or the autumnal frosts appear, making the air more bracing and invigorating, when diarrhœal disorders will speedily disappear.

Attention to these and many other seemingly unimportant, trifling matters secures good care, and good care is no trifle. It is indispensable if we would promote the health and comfort of our infants, and prevent this excessive mortality.

Circumstances may prevent the nursing of the child from its birth, or we may be obliged to wean sooner than is desirable; a wet-nurse cannot be obtained, and artificial food must be provided. How shall this be secured?

The prevailing custom with physicians and nurses is to use cow's milk diluted with one, two, or three parts of water, with the addition of a little salt and sugar. Some prefer milk, water and cream in variable proportions, or the use of some one of the many patent commercial foods that have recently been invented. Others rely upon thin gruels of arrowroot, corn starch, gelatine, barley, oatmeal, or wheat, either pure or enriched with milk. Such methods of artificial alimentation are recommended in all standard works on medicine, and by almost all teachers.

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[1] The changes in the physical organization of our American women, growing out of our high pressure civilization, affecting their fecundity and their ability to properly perform the functions and duties of maternity, especially in nursing, have been ably discussed in the annual discourse for 1874, by Nathan Allen, M.D., LL.D., of Lowell, and the reader is advised to review that address in this connection.

The books abound with learned arguments to prove that it is dangerous to administer undiluted cow's milk to an infant, and minute directions are given how to dilute, adulterate, and render it more acceptable and safe.

The chemist has been asked to determine, by the methods of his subtle art, the constituent elements and the difference between human and cow's milk, and he finds proportionally more sugar in human, and more casein in cow's milk, with less important variation in the fatty, saline and animal elements. He also finds that the casein of human and that of cow's milk differs in its physical characteristics when acted upon by reagents, that of the cow forming a more tough, firm, indigestable curd.

Different analyses give variable results in all particulars, as might be expected, for it is apparent that the composition of any milk, human or animal, will be modified by the season of the year, the quality of the food and drink, the state of health, the time since parturition, individual and race peculiarities, and many other influences. Again, milk has certain volatile elements, and it may be polluted with septic germs or the infection agent of severe or deadly disease, which no art of the chemist can detect. So that whatever may be the results of analysis showing differences in the grosser constituents, they are not of sufficient practical importance from which to deduce the conclusion that it is dangerous to feed infants with undiluted cow's milk, and that they cannot be safely and successfully raised in this manner.

The power of the chemist ends with his destructive analysis. He can neither mix nor distil any fluid having the nature and physical characteristics of milk. The female is the only chemist who can prepare this invaluable food, elaborating it through processes secluded from observation in the laboratory of her mammary gland.

The artificial substitutes for human milk that have been mentioned have certainly been most thoroughly tried for many years, and the results have not been very flattering to the scientific acumen of the inventors. Thousands of helpless, beautiful children have been yearly starved to death, poisoned, and made sick by the use of these unsuitable, indigestable foods.

A consideration of some of the anatomical and physiological peculiarities of the digestive organs in infancy will aid us in the further discussion of this subject, for the scientific successful method of artificial alimentation must be in harmony with the facts of anatomy and physiology, and not rest on any other basis or theory however indorsed by eminent fathers in medicine.

At birth the child has no visible teeth. The salivary glands are small, weighing, as stated by the Drs. Jacobi, of New York, "at the age of one month, thirty-four grains; at fifteen months, eighty grains; at two years, one hundred and eighty grains."

Their physiological function is the secretion of an alkaline lubricating fluid for assistance in deglutition, having power to convert amylaceous foods into grape sugar or dextrose. The glands are so small at birth, and until the fourth or fifth month, that but little saliva can be secreted. After this age, while teething, it is often excessive.

The stomach is a simple dilatation of the alimentatary canal, the curvatures of after life being absent. It easily rejects its surplus contents when overloaded, and saves the child from distress and sickness.

Its physiological function is the digestion of albuminoid or proteid foods by the solvent power of its secretions. Sugar, starch and oil are not digested in the stomach. They pass into the duodenum with the chyme, and are digested by the secretions of the liver, pancreas, and intestinal glands.

In this connection we must mention the important anatomical fact, as stated by the Drs. Jacobi, "that the pancreas varies in weight in infants of the same age; that in infants under four months it is often less than a drachm, never weighing two drachms." If these are unquestioned facts, it is clearly evident that the infant has but feeble power to digest the starchy elements of farinaceous foods; and that decoctions or gruels, made from wheat, oats, barley, corn starch, arrow-root, and rice, which contain from sixty to eighty-six per cent. of starch, and are the basis of all commercial infant foods, should have a low place in an infant's diet, compared with cow's milk, which contains no starch, but has an abundance of all needed elements, and is almost perfectly adapted to the digestive organs of the child, the trouble being with the quality of the casein, and the liability to be acid instead of alkaline, like human milk.

"The investigations of Guillot into the change undergone by the food given to children in French hospitals, and the great mortality attending those who were fed on farinaceous and starchy substances boiled in water," is confirmatory on this point. "He found uniformly present in the bowels a jelly-like substance, which on analysis was found to be nearly pure starch." The children were starved to death.

If with care in the selection, management and feeding of the cow, we can modify the milk product, and secure a food almost identical with, yes, infinitely nearer human milk than any artificial mixture can be, and if by some method of administration we can render it acceptable to the stomach, overcoming objections by good practical results, all of which we declare can be accomplished, ought we not, considering the enormous death-rates attending old methods, to take a new departure, and establish our practice on the only sound basis, the facts of anatomy and physiology? We can lose nothing in reputation. A larger mortality cannot be easily secured and placed to our credit!

Let then the physician and the physiological chemist, in dealing with this important matter, consult the great high priest of nature, the farmer, and, by his aid, using the chemistry of nature, secure an abundance of perfect natural food for our children, pure, sweet, rich cow's milk.

All theories and methods of administration to be accepted as fixed must successfully stand the great crucial test of science, that of observation and experience. What testimony then can we secure from observation and experience?

In 1868 Dr. Stephen Rodgers, of New York, published an article in the *Medical Record* recommending undiluted cow's milk for infants, after nine years' experience, and its use in bringing up three of his own children.

Dr. Hiram Corson, in an address before the State Medical Society of Pennsylvania, on food for infants, some fifteen years ago, after observations extending over a period of more than thirty years, declares: "I feel quite certain that it is almost as easy to raise children by hand, if they have an abundant supply of good, undiluted cow's milk, as it is by the breast."

His experience confirms his opinion "that thousands of children who die annually of diarrhœal diseases, die for want of food. They are really starved to death." He says to the profession, "and we are not blameless."

Dr. Austin Flint, in his work on the Practice of Medicine, article Cholera Infantum, page 417, says: "There is reason to believe that infantile mortality in cities is attributable in no small measure to the use of diluted, sophisticated, artificial milk. The importance of undiluted milk from a pure source to the welfare of children is far from being generally appreciated."

It was with great pleasure that I found, while preparing for this occasion, in the last, the April, number of the *American Journal of Obstetrics*, a "special report of the discussion on the question of nourishment in the pediatric section of the fifty-fourth meeting of German naturalists and physicians, at Salzburg, September 19, 1881."

A commission had been previously appointed to prepare papers and investigate this important subject. A circular was prepared and widely distributed, directing the discussion to two points:

"First. Substitution of natural, unadulterated animal (cow's) milk for human milk, and its production.

"Second. Substitution of artificial foods, with or without milk, for the natural milk; their nature and value."

After earnest discussion for two days the conclusions reached in regard to artificial foods were expressed by Dr. Soltmann as follows: "Now and evermore it is unanimously agreed, that these preparations *can in no way be substituted for mother's milk, and as exclusive foods during the first year are to be entirely and completely rejected.*"

In regard to cow's milk he said: "Therefore we now stand at this point: cow's milk is the only substitute for mother's milk. Our whole endeavor must be to procure and use this in the best way. This standpoint is a long step in advance on the broad field of work before us." As presiding officer he closed the discussion thus: "Let us hold fast, gentlemen, to what we have already gained. Let us attempt in the future to put it in the power of even the poorest to obtain good, pure milk for his children. United work on the part of the doctor, experimental pathologist, physiological chemist, and land-owner can alone fill up the gaps in our knowledge of dietetics."

For thirteen years, when for any cause it has been necessary to resort to other food than mother's milk, and the fears of mothers and nurses could be overcome, I have used undiluted cow's milk, and failed only in three instances to raise the child.

I have no record of the number of cases weaned and raised on undiluted cow's milk, probably nearly a hundred, as my obstetrical cases at full term, for the thirteen years, number five hundred and I fully agree with Dr. Corson, "that it is about as easy to raise children by hand, if we have an abundant supply of good, undiluted cow's milk, as it is by the breast," and I will further add that under these conditions I neither hesitate or fear to wean in hot weather. Success with any plan of management can only be secured by attention to a multitude of seemingly unimportant details. The child seeks the breast to satisfy its thirst and appetite, and for no other purpose. It draws the warm milk slowly, with much effort from the mother's breast. As it reaches the palate the gastric glands are excited, the digestive fluids are freely secreted, and mixing with the inflowing milk exert their solvent power on the whole bulk of ingesta with great energy. Therefore it is good practice, especially in hot weather, to offer the child cold water before nursing to satisfy its thirst, and prevent it from overloading its stomach.

In artificial feeding we should carefully observe the methods, and follow the indications of nature. Therefore we would satisfy the infant's thirst by allowing it to draw from a tumbler slowly through the nurse tube; some children will require considerable, others but little. Not being an aliment it does not excite the secretion of the gastric juices. Then in a few moments allow the child *all the fresh, undiluted cow's milk it will take,* warmed to the temperature of the blood, only being sure that it is slowly injested, just as nature supplies it when nursed from the mothers breast.

Some will ask, Why not mix the water and in the bottle instead of the stomach? What is the difference in result?

Milk and water is neither the one nor the other. It is extended, adulterated, weakened milk, and when thus administered more bulk is required for a given amount of nourishment, the stomach over-distended, and the gastric juice so diluted as to weaken its digestive power; besides, the water and milk separately administered mix but little in the stomach, the water is so rapidly absorbed. By this method we do closely imitate nature, and in a great measure, almost entirely overcome the the difference in quality and digestibility of the casein between human and cow's milk.

The cow should be selected with great care. Milk from different breeeds, and from cows of the same breed vary widely in their essential elements. That from the Jerseys and Alderneys is excessively rich in cream. The Ayrshire and grade cow should be preferred, as they furnish a fluid more nearly resembling human milk. A very fat baby is to be desired. The quality of milk is influenced by the season of the year, the food, air, water, and care which the cow receives, and the state of her health. For obvious reasons we would avoid a diseased, old, farrow cow, one fed on turnips, onions, cabbage, slops, garbage, and course, sour, swamp grasses, supplied with water from a stagnant pool or polluted well, or kept in a damp, filthy, ill-ventilated stable, and select a young, healthy Ayrshire or grade cow, that has recently had a calf; one that has good, sweet, upland pasturage, with pure spring water to drink, and a plenty of salt; one that has good care, that is kept quiet and gentle, not worried by dogs or boys. We would examine the milk with a test tube, note its specific gravity, its color, smell, and taste, the percentage of cream, its reaction to test paper, and if acid reject it. We must use our eyes, our nose, our taste, and secure pure, rich milk, milked morning and evening from a clean cow, into a clean pail; keep it in a clean bowl, covered with a clean napkin, in a clean closet, away from the pantry where food is stored. It will rapidly absorb odors, dust, and septic germs, and in hot weather will quickly ferment, putrefy, and spoil unless cared for, and thus become the vehicle or cause of severe or perhaps deadly disease. It is the most sensitive and easily spoiled of all animal foods.

Having secured good millk we would procure a suitable nurse tube and bottle; one with a screw in the stopper is desirable to regulate the flow. We must be sure that the child draws the milk slowly, just as in nursing, for if poured into the stomach faster than the gastric juices can be secreted to mix with it, it may form a hard mass of curd, distress the child, and perhaps cause a convulsion.

The nurse tube and bottle should be kept scrupulously clean and sweet rinsing in weak soda water immediately after using. Perhaps, after all our care, the milk may not be acceptible to the delicate stomach; then render it more alkaline by adding a suitable quantity of bicarbonate of soda or potassa or the phosphate of soda, or try the milk of another cow. The trouble may be due to bacteria or microzymes; then sterilize the milk as advised by Tyndall, by subjecting it to a heat of 120° F. for a few minutes.

I never boil milk for a child; it changes its specific gravity and other characteristics. Salt should not be forgotten.

We cannot manage all children by one precise rule. Rules and methods must be elastic, and varied to meet individual idiosyncrasies and peculiar conditions.

That many children have been successfully raised on milk and water, mixed and other foods, we freely admit. They often look plump and well nourished, but how quickly their flesh wastes under a slight illness! Their tissues lack firmness and stamina; they lack endurance, and if much sick in hot weather are about sure to die, while breast-fed and pure milk raised children bear disease and dentition equally well; cholera infantum rarely attacks them.

The Registration Reports record the fact, which is confirmed by our observation and experience, that of all the causes of infantile sickness and mortality that of defective alimentation is the most important. Diseases of the digestive organs from this cause, when intensified by other unavoidable conditions, like hereditary tendencies, dentition, and solar heat, are not readily controlled by medicine. They are best treated by prevention. The resources of preventive medicine are of incalculable value to mankind. Can the worth of vaccination be estimated, or the immortal Jenner be forgotton? The power of the great anæsthetic to prevent pain, and save life which was first demonstrated to a startled world in yonder hospital, by skillful surgeons of the Massachusetts Medical Society, will continue to bless all future generations.

In the late war the able and energetic General Butler, aided by his medical staff, through wise measures of prevention, in transferring his command to his successor, was able to declare to the people of New Orleans that he had demonstrated that the yellow fever could be kept from their borders,—a peaceful vicory, of more value to this country than a successful battle.

We cannot have forgotten the epidemic of small-pox that so disturbed and alarmed the people a few years ago. Boston suffered not only from the loathsome pestilence, and its mortality, but in every branch of her industry and trade. Conceited, incompetent men controlled the most important department of administration, that of the public health, and the disease marched on unchecked. But when intelligent, competent Commissioners were appointed, and clothed with authority, one of whom, a respected fellow of our society, now his Honor, the Mayor of this city—Dr. Samuel A. Green—the power of preventive medicine, wisely employed, checked the pestilence, the public health was restored, confidence and prosperity returned to this beautiful city and the result was brilliant!

If that "perpetual and unrelenting scourge," typhoid fever, can be eradicated by preventive measures, as claimed by Dr. Parkes, Dr. Budd and many English and German physicians, and, as very ably and suggestively discussed by Dr. Thomas H. Gage in this place two years ago. what a dark shadow of suffering and death would be dissipated! The comfort, happiness and security of human life would be greatly increased; the prosperity and welfare of society immeasurably promoted, and scientific medicine would achieve imperishable laurels.

If in the department of infantile therapeutics preventive methods can be so employed as to check the ravages of these diseases that rob our homes of our brightest jewels, will not the results be most brilliant and of incalculable value to society? To the accomplishment of this high purpose the profession should direct its investigations; and although we may be modest, obscure physicians, we can aid in this work, through associated effort, in our district medical societies by imparting to each other our opinions derived from investigation, observation, and experience.

The crowning glory of our profession is its broad, practical humanity, that reaches with its ministrations the sick poor, provides care in asylums for the insane, the blind, the outcast, the inebriate, the consumptive, and even the nervous.

No adequate provisions have been made for the safety and wellfare of the helpless infant. Our profession should encourage the generous philantrophy of wealthy men like Thomas Wilson, of Baltimore, who, dying in 1880, left a bequest of $500,000 "for the purpose of securing a summer retreat for sick children, from the heat and unhealthfulness of the city." His will says: "Having observed for many years the great and alarming mortality which occurs each summer among young children,......I do not think I can make a better use of some of the means of which God has made me steward, than in the alleviation of the pains and prolongation of the lives of these little children." One hundred and sixty acres of land six hundred feet above tide water have been secured, a half hour's ride from the city of Baltimore, and the Wilson Sanitarium started in its beneficient work, dealing only with the poorer classes without pay.

It is pleasant to notice that in our State similar institutions are being established, though on a small scale with insufficient equipment: one, the Seashore Home, at Winthrop; another, the Children's Hospital at Baldwinville. If generous benefaction could be secured for their maintenance and extension, and the mothers among the poor of large cities, living under unfavorable sanitary conditions, could receive, with their children, assistance and care during the hot months, very much would be accomplished towards preventing this excessive infantile mortality.

May we not reasonably hope that in the near future some member of our Massachusetts Medical Society, having the kind heart and executive ability of our late associate, Dr. Samuel Gridley Howe, will engage in this work, and accomplish for helples infancy that measure of relief which he secured for the blind and feeble-minded; and that from the ranks of business some man with princely wealth, generous, humane, philanthropic, with the heart of a George Peabody, influenced by the spirit and example of the great Nazarene, "who took little children up in his arms, put his hands upon them, and blessed them," who will establish a beneficient charity, after the example of Thomas Wilson, that will relieve poor children in their homes, by furnishing an abundant supply of pure milk, ice, and other comforts, or provide for them good care in a well-regulated asylum.

This subject is so important, so far reaching, so intricate a problem, so interwoven with the welfare and foundations of human society, that its discussion kindles enthusiasm, and I am reluctant to leave the duty of this hour so partially and imperfectly performed.

Anxious fathers and mothers are seeking our aid, in our respective places of duty, to save their children from death! May we so wisely, tenderly, and successfully discharge our responsible duties as to deserve and receive the gratitude of parental hearts and the blessing of Almighty God!—*Boston Medical and Surgical Journal.*

THE THERAPEUTIC USES OF THE HERBA PULSATILLÆ.—**By Lewis Shapter, B. A., M. D. Cantab., physician to the Devon and Exeter Hospital** and to the West of England Institution for the deaf and dumb.

The flowering plants of Anemone Pulsatilla and Anemone Pratensis, were long since recognized and used remedially in medicine; but their temporary disuse is probably mainly to be ascribed to the indiscriminate manner in which they were given and to the want of any detailed explanation of their probable therapeutic action.

The history of the drug has its interest as showing the reputation which it at one time possessed.

Dr. William Cullen, in his "Treatise on the Materia Medica, 1789, vol. ii. refers in the following manner to the use of Pulsatilla Nigricans:

"This is one of the remedies which we owe to the benevolent industry of Baron Störck; but he has ascribed to it so many wonderful effects that his credit is hurt with many persons, and has made many neglect to give this remedy a frequent and fair trial. It has particularly concurred with this in Scotland, that the plant is not a native of this country, and that there has not been ready access to it. But whatever may become of the credit of Baron Störck's experiments, I must observe that the plant is an acrid substance, and therefore capable of being active, and from the singular matter resembling camphire which water distilled from it contains, it may have peculiar powers and virtues.

"I would still recommend it to the attention of my countrymen, and particularly to a repetition of trials in that disease so frequently otherwise incurable, the amaurosis. The negative experiments of Bergius and others are not sufficient to discourage all trials, considering that the disease may depend upon different causes, some of which may yield to remedies, though others do not."

A further interesting note on the Meadow Anemone (Pratensis), occurs in the *United States Dispensatory* (Wood and Bache) for 1847:

"This plant," it is stated, "enjoyed at one time considerable credit from the recommendation of Strörck, who believed that he had found it useful in amaurosis and other complaints of the eye, in secondary syphilis, and in cutaneous eruptions. The Anemone Pulsatilla, an analogous species, has been employed for similar purposes, and favorable reports have been made of its efficacy in obstinate diseases of the skin, and in whooping cough. . The preparation employed was an extract of the herbaceous part of the plant, which was given by Störck in the dose of one or two grains daily, gradually increased to twenty grains or more. In large doses it was frequently found to produce nausea and vomiting, or griping and looseness of the bowels, and sometimes acted as a diuretic. The species anemone above mentioned are European plants, and are not cultivated in this country. We have several native species, which, however, are not employed. One of them, Anemone Nemorsoa, which is common to Europe and the United States, is said to act as a poison to cattle, producing bloody urine and convulsions, It is stated also to have proved, when applied to the head, a speedy cure of tinea capitis. Most of the species are, in a recent state, acrid and rubefacient, resembling in this respect, other ranunculaceæ. They contain a peculiar crystallizable principle called anemonin, which is converted into anemonic acid by the action of alkalies."

Orfila (*General System of Toxicology*, vol. ii. part i.) details a series of experiments and observations made with the anemone pulsatilla (windflower), and records as his opinion:

"1. That the anemone pulsatilla produces violent inflammation of the parts with which it comes in contact.

"2. That it is absorbed and carried into the circulation.

"3. That it appears to act by stupefying the nervous system.

"4. That it likewise probably exerts an irritating action on the lungs and stomach.

"5. That its deleterious principles reside in every part of the fresh plant.

"6. Lastly, that its effects are much less, and become null, on being dried."

Orfila further states many other species of this kind are poisonous. Vicat has seen the extract of anemone pratensi produce, in the dose of two drachms, gnawing in the stomach. Bergius reports dimness of sight and swelling of eyelids from exposure to the vapor arising from the evaporation of the juice of the plant in forming an extract, and, according to Balliard, the decoction of Anemone Sylvestris has produced convulsions. Such animals too as browse on the young shoots of the Anemone Nemorosa (of the woods) experience weakness of the legs, trembling, and bloody stools, and die in the course of a few days; whilst the inhabitants of Kamtschatka make use of this plant to poison their arrows, and the wounds are most commonly fatal.

Binz (*Elements of Therapeutics*), in his account of pulsatilla, describes it as containing a crystalline body, anemonin (pulsatilla-camphor), a chemically indifferent substance, which in doses of 0·5—0·6 grammes causes death in rabbits; and also an acid. The plant paralyzes the medulla oblongata and spinal cord, and excites irritation of the digestive tract and kidneys (Clarus). Its use is in catarrh of the air-passages complicated with spasmodic cough, and in various rheumatic and dyscrasic conditions. A tincture made from the fresh leaves is also much praised as a remedy in spasmodic amenorrhœa. Clarus further found anemonin in doses of one half gr. to gr. j. useful in irritative cough, asthma and whooping cough. Dr. Phillips has recommended the drug in discharges from mucous membranes of a muco-purulent character, and in subacute gastritis with depression of spirits; and Dr. James Tucker, of Chicago, has reported its utility in simple dysmenorrhœa, but more especially in headache the result of excessive mental application, when other remedies have failed.

It was mainly the observation of Clarus that the plant paralyzes the medulla oblongata and spinal cord that led me to investigate the special use of the drug as a nervine sedative. This observation of Clarus is directly confirmed by that of Orfila, "That it appears to act by stupefying the nervous system;" but my object will rather be to show that in medicinal doses the drug exerts its primary and essential influence as a sedative upon the sympathetic or ganglionic nervous system, subduing those nervous conditions or neuroses which may be regarded as reflex in origin, and controlling those vascular and tissue disorders which, pathologically considered, are sympathetic neuroses. The tincture of the whole herb (and not of the root, which is probably the homœopathic preparation) is the form in which I have administered the drug; the strength of the tincture being two and a half ounces of the herb to one pound of spirit (or one in eight), and the dose has been from *m* v. (or preferably *m* x.) to ʒss.

The following are some selected illustrative cases typical of the class of disorders in which, from my observation, Pulsatilla will be found useful and curative:

Case I.—Eclampsia (accidental and transitory epilepsy), following scarlet fever and nephritis.

T. S., aged fifteen. This boy had enjoyed good health as a farm laborer up to eighteen months ago, when he had scarlet fever followed by nephritis and uræmic convulsions, from which, however, he states that he returned to work. About nine months after this illness he became subject to fits, in which, from the statement of others, he became unconscious for a few minutes, and these attacks recurred about two or three times in the week. Lately they have become frequent, and for some weeks prior to admission they had recurred frequently during the day.

On admission to the Exeter Hospital on the 28th of May, 1880, the lad appeared to be very strong and muscular, with an intelligent type of countenance, and no apparent defect of malformation. The different organs and systems of the body were healthy, urine on examination was acid, free from albumen, and of a sp. gr. of 1,025.

On the day after admission there were five fits, each lasting about four minutes, and characterized by a precedent pallor of countenance, sudden unconsciousness, convulsive twitchings (more marked on the right side), lividity of countenance, protrusion of tongue, and subsequent but not prolonged stupor.

On the two subsequent days after admission there were four fits of a like character, and then *m* v. of tinct. of pulsatilla were ordered in water every three hours. The next day (1st. of June) there were two fits; 2nd of June, one fit at 7 a. m.; 3rd, 4th, 5th, and 6th of June, no fit; 7th of June, three fits, dose of tinct. pulsatilla increased to *m* viij.; 8th of June, one fit; 9th of June, two fits, urine again examined and found normal. From the 10th to the 12th of June the number of fits occurring daily were either two or three, and then *m* x. of tinct. of pulsatilla were ordered. From the 13th to 16th of June there were two days in which fits recurred, and the pulsatilla was again increased to *m* xv. every four hours. From this time the fits gradually subsided; from the 17th to the 21st no fit rerecurred. On the 22nd there was a slight attack of a minute's duration, and the dose of pulsatilla was again increased to *m* xx.

For a month after this time the lad remained under observation in the hospital without any fit recurring, and was then discharged.

Case II.—Eclampsia, dental in origin.

Mary M., aged twenty-two, general servant, had enjoyed fairly good health up to about three months since, when she became subject to occasional attacks of giddiness, which soon passed into convulsive fits, in which she lost consciousness. For a fortnight before admission she had been treated for these attacks, which occurred daily.

On admission to the Devon and Exeter Hospital in January of this year she appeared pale and anæmic, and on examination a soft systolic murmur was audible over the aorta and carotids. The fits from which she suffered did not seem to differ on investigation from true epilepsy; they were convulsive, of short duration, and accompanied with loss of consciousness, immobility of the pupils, distortion of the face, and foaming at the mouth. The family history being good, and the epileptic attacks being recent in origin, or, according to Niemeyer, "acute" in character, and therefor eclamptic, the only exciting cause that could be discovered was a number of decayed teeth. These were ordered to be removed, and the following mixture was given, as latterly I have found the addition of chloroform (and preferably the tincture, as less sickening) a true adjuvant to the action of the pulsatilli:

℞ Tinct. pulsatilla herb. *m* xx.
Tinct. chloroform. co. *m* xx.
Aq. dist. ad ℥j.
Ter die inter cibos.

One month after admission the patient was discharged from the hospital as convalescent, but she remained under observation as an out-patient for a further period of three months, when she was discharged recovered, having been free from fits for nearly the whole of this time. The only observation that might be made in this case is that the removal of the decayed teeth had more to do with the removal of the fits than the use of the medicine. This may be so far a just criticism, but the following is an almost identical case of dental eclampsia where the pulsatilla controlled the fits even after failure of bromide of potassium.

Case III.—This case, Edith W., aged seventeen, had been in the hospital before for the same kind of epileptiform attacks, but had only received some temporary relief. There was nothing to indicate that she was the subject of true epilepsy, but I told her that her decayed teeth were a probable source of her trouble and advised their removal. This she absolutely declined to submit to. For some time she was placed upon scruple doses of bromide of potassium three times a day, but without any very beneficient result. The bromide mixture was then altered for one of *m* xx. of tincture pulsatilla. She has now been free from fits for two months, and is still taking the pelsatilla, but the cause in the form of decayed teeeth still remains.

Case IV.—Uterine eclampsia.

Mary B., aged thirty-five, admitted into the Devon and Exeter Hospital October 28, 1881, a pale, delicate-looking woman of a nervous temperament, short in stature, and ill-nourished. She had been under treatment for many years in different hospitals and institutions for what she described as a falling down of the womb, and constantly recurring fits in which she lost consciousness. Under medicinal treatment these fits subsided for a time, but they invariably recurred, and she had never been successfully fitted with a uterine support. The fits under observation were epileptic in character, and an examination of the womb revealed prolapse of the anterior wall of the vagina rather than any prolapse of the womb, but the body of the womb was also slightly flexed anteriorly. Tinct. pulsatilla, *m* xx., was at first ordered every four hours, and three weeks after administration, there having been no fit for ten days, a cradle pessary of small size was fitted for the womb, and *m* xx. of tinct. chloroformi co. was added to each dose of the pulsatilla mixture for the relief of some abdominal griping pain. The improvement in this case continued without intermission. Two months from the date of admission there had been no fit for six weeks, and Ferri Redacti gr. j. was ordered daily after meals in addition to the other medicine. She was then discharged; but about three months subsequently came up to report herself as well, having recurred only for a short time to the former mixture, and being able to manage the pessary herself without inconvenience.

Class of Smypathetic Neuroses, Seated in the Sympathetic System; Trophesiæ.—Case V.—Cardialgia, functional palpitation throbbing of vessels, heat and flushings (erythema evanidum).

G. A., aged seventeen, a laborer. On admission to the Devon and Exeter Hospital the lad was mainly suffering from perceptible throbbing of vessels, turbulent palpitation of the heart, and giddiness, with slight attacks of fainting. Upon speaking to him an extreme nervousness appeared to come over him, so that he could hardly collect himself to answer questions; the face was flushed, and the whole surface of the body was covered with a remarkable diffused redness almost like a scarlatina rash (Æstus Volaticus. This, after a time, passed off; but if he was standing up the slightest exciting cause would in addition temporarily bring on a dizziness or faintness. Up to six months prior to admission this lad had enjoyed good health, and from his appearance one would say in health that he must have been strong, muscular, and well-developed, and a good type of a Devonshire farm laborer. His illness, however, commenced with tendencies to pain in the front of the chest, occasional attacks of vertigo, and occasional flushings of the face and surface, with palpitation of the heart. All these symptoms, together with extreme nervousness, gradually increased upon him until he became unable to work.

Upon exrmination the report is: "A turbulent systolic impulse diffused over the whole cardiac area, no perceptible increase of dullnes and apex-beat apparently in normal position, a fugitive systolic murmur audible at the immediate apex, and a systolic murmur audible also in the carotid vessels. Pulse variable, generally about ninety per minute, full but compressible. The stomach and bowels appeared distended and tympanitic, and there was tendency to a feeling of pain, load, and discomfort about two hours after meals. Urine, sp. gr. 1,012; no albumen."

The treatment in this consisted of almost the whole round of tonics, antispasmodics, and sedatives, together with remedies directed to indigestion and constipation. Courses of tinct. digitalis, of bromide of potassium, of liq. arsenicalis, of pepsin, of assafœtida, of ether, of ammonia and lavender, of alkaline mixtures with rhubarb, etc., had really no material effect. The bromide had the remarkable result of even increasing the vertigo and faintness, possibiy from these being really anæmic in origin; and it was only three months after admission that the tinct. of pulsatilla was given, *m* v. every four hours.

At my next visit he expressed himself as for the first time relieved and stronger; the dose was then increased to *m* x., and subsequently to *m* xv., but this induced nausea and sickness, so that *m* x. was the dose which was continued uninterruptedly. Improvement was markedly progressive, but gradual, and on leaving the hospital after a course of the putsatilla for six weeks, all tendency to vertigo and faintness had passed off, the slight evidence of heart mischief had cleared up, and he was daily becoming less nervous and excitable. He remained under observation as an out-patient, still continuing the pulsatilla, and at the end of three months was discharged recovered, having for some weeks previously omitted his medicine, although doing his usual work.

Case VI.—Vascular turgescence of thyroid, amenorrhœa, anæmia.

Alice H., aged 20. On admission to the hospital as an out-patient in June, 1881, this patient appeared pale and anæmic, and had complained for the last five months of amenorrhœa, almost coincidentally with which there had been a gradually increasing swelling of the thyroid gland of the neck, for which immediate cause she had come for treatment.

The swelling of the thyroid gland was fairly uniform and yielding to palpation, and the enlargment almost invariably became more marked at the times when, indicated by some pains about the back, etc., the menstrual periods should ordinarily recur. Beyond a hæmic bruit in the neck there was no other indication of disorder, and she was ordered *m* x. of tinct. pulsatilla in water three times a day between meals, and the pil. aloes et myrrhæ every other night.

This case remained under observations for some time, making steady but gradual progress, and on the 16th of July the note is as follows: "Menstrual period returned last week, no accompanying increase of swelling in the neck, expresses herself as feeling better, and looks healthier and ruddier in the face." The pulsatilla was continued until the swelling of the thyroid gland had almost disappeared, when she was ordered, at the end of two months, pills of reduced iron, and was ultimately discharged recovered.

Sympathetic Neuroses: Æsthesiæ.—Case VII.—Facial Neuralgia.

Jane B., aged nineteen, servant, was admitted into the hospital for obstinate facial neuralgia of some months duration. During the last six months she has had as many as seventeen teeth removed, some for overcrowding and some for decay, and had tried a variety of medicinal remedies without any avail. She was now sent into the hospital with the view of some surgical interference for necrosis of the lower jaw; but as my surgical colleague at the time, the late Mr. Roper, did not think any interference called for, the case was transferred to my care. The account she gave me of her illness was that it began with ordinary toothache, for which a tooth had been removed, but her neuralgic attacks intensified rather than diminished, notwithstanding removal of teeth and treatment. Upon careful inquiry the neuralgic attacks appeared usually to recur at night and were preceded by coronal headache and heat and throbbing of head. The only evidence of local mischief connected with the mouth was some thickening of the lower jaw, corresponding to the second right lower molar tooth.

She was at first placed upon the croton chloral hydrat, in doses of gr. iij. every four hours, and subsequently upon large doses of bromide, together with chloral, opium, and other sedatives at night, but without any avail. A month after admission, 26th of July, there being no material change in her condition, *m*. x. of the tincture pulsatilla was ordered every four hours, the chloral draught to be given at night if required. At the next visit, 29th of July, she described the new mixture as having relieved the burning sensation in the head, there had been only one attack of neuralgia since commencing the mixture, and this was the day after it was begun. The chloral draught which had been ordered for emergency had not been needed. Ten days after this note, there having been no recurrence of attack, she was made an out-patient, and continued under observation until the 17th of September, when she was discharged recovered, having discontinued the pulsatilla for a time.

In addition to the cases recorded, there are a number of others in which the use of pulsatilla has proved either curative or beneficial, but any detailed account is probably unnecessary. Feverish attacks, *e.g.*, are not uncommon prior or subsequent to the menstrual periods in young women of a nervous temperament; these attacks, nervous in origin, are controlled by pulsatilla. A transitory nervous fever is often witnessed as the result of continued nervous anxiety or shock, or overwork; this is subdued by pulsatilla. "Epilepsy and eclampsia are," according to Trousseau, "two identical neuroses with regard to their symptomatic expression and their proximate cause." Pulsatilla is an adjuvant to the use of bromide in the former, and is preventive of the latter. Neuralgic dysmenorrhœa is markedly benefited by the combined use of pulsatilla and bromide. Palpitation of the heart also will be relieved if it is sympathetic or ganglionic in origin. The local causes of neuroses, it will be remembered, are of two kinds, according as the nerve-centre is involved or not. In the former case with reaction on the nerve-centre, the functions of that centre to either (1) transfer, (2) diffuse, or (3) reflect impressions, are brought into play; but in the latter, on the contrary, the cause of pain, as well as the pain itself, is localized. Diffused dental neuralgia from a single decayed tooth, or transferred pain in the knee arising primarily from disease of the hip, may be taken as examples of the one; rheumatic neuritis of the sciatic nerve as an example of the other.

The true position, then, of pulsatilla as a remedial agent appears to be that of acting upon and controlling irritability and hyper-activity of the ganglionic nervous system; but it has no place, except indirectly, as a vascular sedative to be classed with aconite and hellebore. Upon this view, eclampsia, dependent upon an exciting cause acting reflexly, will be controlled, but true idiopathic epilepsy, or chorea, will not be allayed. Vascular excitement reflexly dependent upon some exciting cause, as in hay fever, will be mitigated or even cured; but in inflammation or inactive and passive congestive states it will be found useless.

If, therefore, pulsatilla appears, by its therapeutic properties, to calm that ever-variable class of cases which may be comprehensively termed the sympathetic neuroses in their pathological causation, it is surely worthy of more extensive investigation; and the object of this paper is attained if it tends to direct investigation into some reliable channel. A few words more need only be added as to the mode of prescribing the drug. The tincture of the herb of pulsatilla should always be expressly ordered of the strength of one in eight. The time for administration is an hour or so before food. I have usually prescribed it in doses of from *m.* x. to ℥ss. in distilled water only, but latterly I have had reason to think that the addition of the tinct. chloroform. comp. in *m.* xx. does assists the action of the pulsatilla. I also regard pulsatilla as an adjuvant to bromide of potassium.—*Practitioner.*

RECENT RESEARCHES ON BACTERIA.—*Malignant Œdema.* — One of the most frequent sources of error in experiments on anthrax is the contamination of the cultivating fluid with a form of bacillus, at first sight resembling the bacillus anthracis, and called by Koch the bacillus of malignant œdema, from the symptoms to which it gives rise. We referred to them as the probable source of error in Buchner's experiments; and it may be interesting, in relation to our last article, to mention some facts recently made out with regard to this organism. Though at first sight the two organisms resemble each other very closely in form, yet they differ in various important particulars. The anthracic bacilli are a little broader than the others, and the joints, instead of having rounded convex ends, are concave at their ends; the joints are also enlarged at the point where they join. This concavity of the ends of the rods is peculiar to anthrax baccilli, and can serve as a definite point of diagnosis. The œdema bacilli are generally in active motion, while those of anthrax are motionless; but this is not a constant character of the œdema bacilli. Another point of great importance is the mode in which infection may be produced by these two microphytes. For the causation of anthrax, it is sufficient to make a minute scratch, not tearing the whole thickness of the skin, and to inoculate this with the bacilli, while the œdema bacillus is without effect unless it be introduced into the subcutaneous cellular tissue. This is especially the case with guinea-pigs, but in mice it is difficult to scratch the skin without opening up the cellular tissue, and infection with œdema bacilli generally follow such an experiment. If, however, the very tip of the ear be selected, the cellular tissue is not opened, and thus an inoculation at the tip of the ear of mice may be used as a means of distinction between bacillus anthracis and the œdema bacillus.

This disease has been made the subject, of a special investigation by Dr. Gaffiky (see *Mittheilungen des Kaiserlichen Gesundheits-Amtes*, Berlin, vol. i). The organism is apparently identical with the *vibrion septique* of Pasteur, though he had not seen the pure disease, but to produce it he always injected large quantities of blood or exudation containing other forms of bacteria as well, and thus got not only the local and general effects of the œdema bacillus, but also the local effects of the other organisms introduced. After the injections, as carried out by Pasteur, there was extensive œdema in the subcutaneous cellular tissue, often with development of gases, and the animals rapidly died. On post mortem examination, the most important alterations were found at the point of injection and in the neighborhood, and here also the bacilli were most numerous, the blood being free from them at the moment of death.

This disease is very readily produced by the introduction of a small quantity of garden-earth under the skin of an animal (rabbit, guinea-pig, or mouse). The animals become ill very soon, there being no distinct incubation-stage, and death occurs after twenty-four to forty-eight hours. Spreading from the point of infection, the subcutaneous cellular tissue and the intermuscular cellular tissue become œdematous and reddened, the spleen is enlarged, soft, and of a dark reddish blue color, but the other organs are not altered to the naked eye. No bacilli, or only very few, are found in the blood of the heart immediately after death; but the fluid obtained after section of the various organs contains numbers of these moving rods. The longer the time which has elapsed after death, the more numerous do the bacilli in the tissue and the blood become; they grow best in the dead body, thus differing from other pathogenic organisms. On section of the organs, the bacilli are found in the cellular tissue almost exclusively toward the surface; they apparently spread into the organ from the cellular tissue around. They may also form plugs in the capillaries, though this is rare. In some cases, putrefaction rapidly occurs, but in others it is apparently recorded.

With regard to the cultivation of these organisms outside the body, it has been found by Pasteur, Joubert, etc., that they will not develope in the presence of oxygen, but grow readily when carbonic acid gas is substituted for oxygen in the cultivating flasks. This observation was confirmed by Gaffky, who grew them in the interior of potatoes removed from the air. These baccilli caused death when injected into the subcutaneous cellular tissue, thus showing that they were the true materies morbi.

Of great interest is the question of the relation of these organisms to those found by Lewis in the blood of asphyxiated animals, especially of rats, —an observation confirmed by Gaffky, when the bodies of asphyxiated animals were kept for twenty-four hours at a temperature of 38° to 40° Cent. Koch thought that they were probably identical organisms, and this has been proved to be the case by Gaffky. These organisms are found most frequently in the blood of horses, and Koch explains this by the slower cooling of their bodies. In smaller animals, these organisms, which probably come from the intestine, do not develope readily unless the body be kept at a temperature of about 38° C. Dr. Gaffky asphyxiated a guinea-pig, and then placed the body in an incubator. In twenty-four hours, the body was much swollen from gas-development, and from the natural orifices bloody fluid exuded, containing numerous moveable bacilli indistinguishable from œdema bacilli. Everywhere throughout the body, more especially in the subcutaneous cellular tissue, these bacilli were present in large numbers. A drop of fluid from the cellular tissue was injected into a second guinea-pig. This animal died on the following day, with the typical appearances of malignant œdema. A minute quantity of the œdematous fluid, diluted with distilled water and injected into a third guinea-pig, was followed by the same result.

This disease, though spoken of by Pasteur as septicæmia, is clearly distinct from what ought to be included under that head, and is not identical with Davaine's septicæmia, or with the other forms of septicæmia described by Koch. The facts which have been mentioned, however show that, without a complete knowledge of the bacilli of malignant œdema, and without the exercise of great caution, confusion may arise between them and those of anthrax, etc., and erroneous statements may be promulgated with regard to the pathology and cure of the latter Disease.—*British Medical Journal.*

Hypodermic Administration of Cathartics.—By Dr. A. Hiller of Berlin, in the *Zeitschrift für Klinische Medezin*, iv., 40.

The author has reviewed the experiments that have heretofore been made in the way of injecting into the subcutaneous connective tissue medicine intended to produce catharsis, and has at the same time somewhat extended the list. He has, for a number of years, upon merely theoretical grounds, expressed his belief in the possibility of producing such effects and has maintained the opinion that it was only a question of time when appropriate remedies would be found for this purpose. But, the discovery of a suitable remedy has until now, evaded all pharmaceutical research, and among all those that have been proposed there is not one that answers all the requirements of a hypodermic cathartic remedy.

Aloin, which has been the most universally used in experiments of this kind gives, according to the manner of administration, a varied action. Hiller observed, after the injection of from fifteen centigrammes to two decigrams, a copious, mushy discharge in from four to six hours after administration. In a brief review of experiments by Kohn, not referred to by the author, aloin was administered subcutaneously in the dose of eight decigrams without producing catharsis.

The colocynthum purum prepared by Merck of Darmstedt, a light, grayish-yellow powder of a bitter taste, administered internally or subcutaneously in the dose of five to ten milligrams produces watery stools with moderate tormina. A solution in alcohol, glycerine and water is the best adapted to hypodermic medication. The injection is very painful. There is also a resinoid substance called citrullin, extracted from the colocynth fruit, insoluble in water, which when taken internally in the dose of five milligrammes to one centigramme, or if administered hypodermically in the same dose, dissolved in equal parts of alcohol, water and glycerine, will produce the desired effect, but it produces also severe pain accompanied by œdema and redness of the skin. The action of colocynth and citrullin is also manifested by the officinal extract of colocynth. A dose of fifteen milligrammes to six centigrammes injected under the skin produce diarrheic evacuations, but also pain and œdema.

The substances thus far named, together with a small quantity of fluid produce diarrhœa in from a half to one hour.

Experiments with cathartinic acid from senna show that this remedy, rather freely soluble in water, will produce catharsis if taken internally in the dose of two or three decigrammes dissolved in water and glycerine. Administered subcutaneously, it produces painful inflammation of the skin with a tendency to the formation of sloughs. If, however, the solution be made alkaline, this effect is not produced, and furthermore, one decigramme will occasion copious evacuations, in eight to twelve hours.

The extract of elaterium, as well as the pure elaterin, is too often ineffective, and frequently it is for other reasons inapplicable.

Leptandrin, a glucocide of leptandra virginiana, internally, in the dose of five decigrammes, gently stimulates peristalsis without producing diarrhœa.

Euonymin, the glucocide of euonymus, atropurpurea internally (one to two decigrammes) acts mildly. In obstinate constipation, a dose of three decigrammes or more will be found effective.

Baptisin, a glucocide of baptisin tinctoria, has to be given internally in the dose of three or four decigrammes to produce mild catharsis in four or six hours.

The three latter remedies have been for a number of years employed in America and their therapeutical value well studied.—*Deutsche Medizinal Zeitung.* J. M. F.

Hyperpyrexia in Acute Rheumatism.—A committee of the London Clinical Society presented a report upon the above subject at the meeting of May 26th, 1882. The following conclusions were arrived at, which we copy from the *London Lancet.*

1. That cases of hyperpyrexia in acute rheumatism appear to prevail at certain periods, having in the last decade been remarkably numerous in the years 1872-76, whereas latterly they appear to have been much less frequent. That such excess corresponds in a certain degree, but not in actual proportion, to a similar excessive prevalence in acute rheumatism generally. That the largest number of cases of hyperpyrexia arose in the spring and summer months, whereas rheumatism

is relatively more common in the autumn and winter.

2. That whilst very little difference obtains between the two sexes in regard to proclivity to rheumatism, the proportion of males to females exhibiting hyperpyrexial manifestations is 1-3 to 1. But that as to age no such marked difference exists; nor as as to occupation.

3. That the subject of hyperpyrexia show no undue rheumatism tendency as regards family predisposition.

4. That cases of hyperpyexia preponderate in first attacks of rheumatic fever.

5. That hyperpyrexia is not necessarily accompanied by any visceral complications, but may itself be fatal. The complications with which it is most frequently associated are pericarditis and pneumonia.

6. That the mortality of these cases is very considerable, hyperprexia being one of the chief causes of death in acute rheumatism.

7. That although present in a certain number of cases, and then of much value from their prodromal significance, neither the abrupt disappearance of articular affection, not the similar abrupt cessation of sweating, is an invariable antecedent of the hyperpyrexial outburst.

8. That the supervention of delirium or other symptom of nervous disturbance is very frequent either antecedent to or simultaneous with the hyperpyrexia.

9. That there is considerable variability in the date of the occurrence and in the duratian of the hyperpyrexial condition, ranging, according to our observations at least, from the 4th to the 30th day.

10. That when death results it has occurred mostly in the 2nd and 3rd week of the rheumatic attack.

11. That the post-mortem examinations in a certain proportion elicited no distinct visceral lesions, and that when present the lesions are not necessarily extensive.

12. That the prompt and early application of cold to the surface is a most valuable mode of treatment of hyperpyrexia. That the chances of its efficacy are greater the earlier it is had recourse to. That the temperature cannot safely be allowed to rise above 105°. That failing the most certain measures—viz., the cold bath—cold may be applied in various other ways: by the application of ice, by cold affusions, ice-bags, wet sheets, and iced injections.

The committee did not think it advisable in the present report to enter into theroretical considerations, and limiting the study of hyperpyexia to the records of sixty-seven cases of acute rheumatism, deemed it premature to enter into physiological reasoning until the same conditions had been reviewed in other acute febrile diseases. The report is signed by Drs. R. Southey, H. Weber, W. M. Ord, F. Taylor, T. Barlow, and S. Coupland.

AN IMPORTANT CONTRIBUTION TO THE PHYSIOLOGY AND PATHOLOGY OF THE STOMACH.—Dr. Ludwig Eringer (*Deutsche Arch. f. Klin. Med.* Bd. 29, Heft 5 and 6) has contributed the following interesting observation to our knowledge of the physiology and pathology of the stomach:

The author made a large number of experiments on himself and on many other persons, to decide at what time during the state of digestion free muriatic acid appears in the gastric juice. He found that the latter contained a plus of free muriatic acid during the third and fourth hours after an abundant and rich meal.

The examination of the gastric juice in a case of typhhoid fever elicited the fact that the masses vomited during the period of the highest fever contained a large amount of free muriatic acid. As the results so far gained in this direction have been contradictory, this new addition to the chemistry of the digestion of persons suffering from high fever is rather important.

Examinations into the amyloid degeneration of the stomach showed, in eleven cases, that the vessels of the walls of the organ were also affected, more or less, by the same process of degeneration; frequently the muscularis, especially the muscularis mucosæ, often a part of the areolar tissue of the mucosa and the glandular structure, participated in the same morbid alteration.

The considerable dilatation of the stomach the author brings into casual connection with the co-existing considerable amyloid degeneration of the muscular walls of the organ. If the latter do not possess the tonus any more, which is necessary to enable them to carry the weight of the contents of the stomach, a passive dilatation, its degree depending upon the amount of the contents, will temporarily ensue, and gradually change into permanent dilatation, as the peristaltic movement becomes less and less sufficient for the locomotion of the contents of the organ.

Concerning the development of ulceration in cases of amyloid degeneration, the fact was noted, that it is not the amyloid parts which are attacked by this ulceration, but those parts which are not suffering from amyloid degeneration, but which, not being provided sufficiently with blood from the degenerated vessels, fall a victim to the destroying influence of the gastric juice, which only an ample supply of alkaline blood can prevent. The physiological function of the stomach in cases of amyloid degeneration of the vessels of the mucosa of the organ undergoes this change, as proved by the frequently repeated examination of the contents of the organ in five such cases; that the gastric juice, at the proper time, exhibits a want of free muriatic acid.

Regarding the symptoms during life by which the physician, under certain circumstances, may be able to recognize this participation of the stomach in the amyloid degeneration, Frerichs first drew our attention to the fact that in the beginning the appetite vanishes, and from time to time vomiting takes place, while the tongue is not coated. But Eringer contends that these symptoms are so little definite and subject to such diverse explanations, that they can hardly be considered as possessing any diagnostic value. According to Eringer's experience, the amyloid degeneration of the vessels of the stomach by itself does not exert any influence at all on the appetite; so that we will have to await further observations. Vomiting with clean tongue, absence of tenderness in the epigastric region, and amyloid degeneration in other organs, are the symptoms mainly to be relied upon. In conclusion, we will only add, that the favorable action of acids, and especially of muriatic acid, in cases of typhoid fever, seems to receive an explanation by the facts above mentioned, and that the latter give us the hint not to administer acids, for the purpose of assisting digestion, immediatly after a meal, as heretofore done, but about two hours after the same.—*Medical and Surgical Reporter.*

PILOCARPINE IN DIPHTHERIA.—We described a few months ago the results made by a number of Continental observers on the treatment of diphtheria by the method recommended in such eulogistic terms by Guttman: the administration of pilocarpine with the view of effecting the detachment of the false membranes by the secretions produced. Those results were to some extent contradictory, although the balance of opinion was strongly against the method, as rarely useful and often fraught with no small amount of danger in many cases. This conclusion is strongly confirmed by the subsequent experience of several physicians who have used pilocarpine. The results they have obtained have been lately summarized by Dr. Picot in the *Revue Médicale de la Suisse Romande.* Demme, for instance, in nineteen cases thus treated, failed to observe in most of them any arrest of the spread of the false membranes, and in nearly half the cases tracheotomy had to be performed. In two or three cases of moderate degree of severity pilocarpine seemed to be of some service, but its use was not exempt from difficulty, especially on account of the various tolerance exhibited by children, so that in doses in which some produced alarming collapse were well borne by others. Of three cases reported by Payrandeau, two were children and both died in a state of collapse. No favorable result was obtained by Faludi, of Pesth, and extensive trial of the method by Archambault more than confirms the doubtful opinion which he previously had expressed. He treated eighteen cases by this method, and only three recovered, although eight of the cases are said to have been of a benign form. No larger proportion recovered, however, of those which were treated by other methods, but the detailed observation of his cases had led Archambault to the conclusion that the effect of pilocarpine is positively injurious. The abundant diaphoresis exposes to risk of catarrh, and the abundant mucous secretion produced, in itself involves a danger to respiration. Schmidt, Laschkewitz, and Charknow have met with only unfavorable results. Of ten treated in this way by the latter, all died. The experience of several other physicians—Saint-Denis, Lewin, Warschauer, Dentan, Maunier, and Ferriére—has been scarcely less unfavorable, although not equalling the disastrous experience of Bernier de Bournonville, who failed to save a single one of seventeen patients thus treated. A very small minority of those who have written on the subject consider the treatment of positive utility. Most of these seem to have drawn their conclusions from mild cases, and it may be noted that one of them—Duchini—lost four out of five cases thus treated. Almost all agree that the influence of the drug is confined to the detachment of the false membranes; that it has no influence on the poison itself is shown by the fact that it is powerless to prevent relapses.—*London Lancet.*

TREATMENT OF LYMPHONIA.—Dr. Karl Korble has obtained excellent results in a large number of cases of idiopathic diseases of the lymphatic glands, in which the cause could not be traced to decayed teeth, disease of the mucus membrane of the mouth, tuberculosis, lues, etc. His treatment consists in massage of the affected glands, combined with the injection of tincture of iodine. He proceeded in the following manner. He first fixes the mass of lymphatics, then inserts the needle of a hypodermic syringe into the most prominent point of the largest gland and injects tinct. iodine until he feels a resistance to the injection. Then by withrawing the needle and a diagonal puncture through the primary opening, he attempts to reach another portion of the gland and inject in a similar manner. One point is to be observed, that the point of the needle is in the substance of the gland and not in the interglandular tissue. The instrument is to be kept absolutely clean.

The gland, after the injection, generally swells to about four-thirds of its former size, and grows tender to the touch. The following day, however, all pain has disappeared. Massage is now commenced. The hair is removed and the parts well oiled. The glands are pressed and rubbed against the lower maxillary bone, the clavicle, vertebra, or muscles, and between the fingers from two to five minutes. The massage is repeated on the following day. On the fourth day the injection is again made, followed by massage on the 5th and 6th days, and so on. After the third or fourth injection we are already able to separate one gland from another. The glands have also grown smaller in size, denser and harder, so that the needle can be introduced only with difficulty. Now the injections are to be stopped and another accumulation of glands attacked. If the gland has been reduced to the above state, it remains as a hard nodule which never again enlarges, as its tissues are atrophied. Frequently small abscesses form about the punctures. These heal, however, within two or three days. The pain after an injection disappears in a few hours.—*Deutsche Med. Zeitung.*

G. A. F.

CHARCOAL IN INFANTILE DIARRHŒA. — M. Jules Guérin recommends charcoal in the treatment of infantile diarrhœa. The affinity, he says, he sought to establish between the choleriform diarrhœa of children and adults, led him to apply to the children the same treatment he had used so successfully with adults. M. Guérin orders the charcoal (wood) to be put into the feeding bottle (half a teaspoonful suffices at the time), and, where the child takes the breast, in a little sweetened milk; a teaspoonful to be given frequently during the day. After the first day the evacuations change in consistence and odor; from green they become a blackish-yellow. From this treatment M. Guérin has seen children who were wasted by seven or eight days' obstinate diarrhœa recover their usual healthy expression in three days.—*Gaillard's Medical Journal.*

SURGERY.

Transfixion of Neck by a Walking-Stick; Recovery; Remarks.—The report of this curious and interesting case is printed from notes taken by the dresser, Mr. G. F. Dixon, and the ward clerk, Mr. G. B. Slader.

Henry C——, aged eighteen, was admitted on March 20th, 1881. Shortly before, he was walking along on the side of the curb, carrying in his hand a stick, about as thick as his index-finger, and holding it by the middle, when he slipped, and fell upon it. The blunt point entered his neck upon the right side, went through, and projected for about two inches upon the opposite side. With his neck thus transfixed he walked about 250 yards to a doctor, who pulled the stick out for him, and sent him on to the hospital, after he had plugged up the left opening, from which there was a little bleeding.

On admission, he was a healthy-looking well-nourished boy, and he had not the appearance of having met with any serious injury. He had not spat any blood, nor vomited, nor had there been any difficulty in breathing. On the right side of the neck there was a wound half an inch long, directed downwards and forwards, two inches below the tip of the mastoid process, and one inch in front of it. The adjacent skin was slightly abraded. On the left side there was a transverse wound, also half an inch long, directly below, and an inch from, the tip of the mastoid process. A few drops of blood had escaped from the left wound, that of exit, but barely a trace from that upon the right side. He could raise his head from the pillow with little or no pain. There was some pain on swallowing about the pomum Adami. His voice was not at all affected. The stick was of blackthorn or holly, stripped of the bark, polished and black, with rounded knots upon it. The lower extremity was three-eighths of an inch in diameter, without a ferrule, smooth and cut transversely, with a somewhat rounded edge. The rest was from half to five-eighths of an inch thick. His wounds were washed with carbolic lotion, and lint soaked in a mixture of oil and carbolic acid applied. He was kept in bed, and had low diet for four days, after which he was allowed to take first fish and then meat. No rise of temperature followed the injury.

March 23d. Still a little pain in swallowing.—24th. Wound on left side healed.—27th. Allowed to get up. 28th. No pain in swallowing. Feels slight pain when the head is forcibly extended.—29th. Right wound healed; there has been no suppuration, only a scanty discharge of bloody serum.

April 6th. Went out quite well.

Remarks by Mr. Davies-Colley.—From the position of the wounds and from the subsequent symptoms, it was thought that the stick, after entering the neck in front of the right sterno-mastoid muscle, passed between the vertebral column and the pharynx. In this course it must have been close to the great vessels on the right side of the neck, perhaps between them, near the bifurcation of the common carotid artery. On the other side it probably passed behind the great vessels, and then emerged through the fibres of the sterno-mastoid muscle. The direct line between the wounds would have been through the pharynx, but as there was no spitting nor vomiting of blood, and as the pain in swallowing was slight, it is very unlikely that this cavity was penetrated. In all probability the stick glanced against the vertebræ, and so had its direction altered. It must then have traversed the space behind the pharynx, which in order to allow of the free movements of swallowing, is very loosely connected with the bodies of the vertebræ. The case is also of interest, as it illustrates the ease with which the vessels slip aside and avoid injury from the penetration of a blunt-pointed instrument.—*Reported from Guy's Hospital, London.*

Rupture of the Hepatic Duct.—An interesting case of vomiting followed by fatal collapse, in which the autopsy showed rupture of the hepatic duct, is reported in the *Lancet* (May 6, 1882) by Mr. John Freeland, of Antigua. The patient was a black woman, sixty-five years of age, who had been suffering with intermittent fever, with gastric disturbance, and retching. In one of the vomiting-spells she experienced great pain, which, being relieved by an opiate, soon returned, and was attended by a tympanitic and tender abdomen. After death, which occurred in collapse about eight hours later, the cavity of the abdomen was found literally filled with blood and bile, the intestines inflamed and gangrenous in spots, and general peritonitis. The gall-bladder was found empty; the hepatic duct was lacerated, and in places contained pouches in which gall-stones were encysted. One of these bags was pervious, and permitted a leakage of bile into the peritoneal cavity, except when obstructed by a gall-stone which it held. This opening had probably existed for years. The former one was surrounded by evidences of recent inflammation, and without doubt caused the fatal result. The spleen was deeply stained with bile; the other viscera did not show such decided coloration.—*Medical Times.*

Treatment of Scars of the Face.—A most important branch of cosmetic surgery is treated by Dr. C. L. Bull, of New York, in a reprint from the *Transactions* of the Ophthalmological Society. He says: "Persistent rubbing and kneading of scars of the face, both those due to burns and those resulting from bone caries, as preparatory to blepharoplasty, have, in a number of instances in the writer's experience, yielded most excellent results. Adhesions of scars, slight or extensive, to the subjacent parts, have been slowly, cautiously and painlessly detached, and a gradual absorption of the firm material in the dense part of the scar has been brought about. So considerable has been the result obtained in some cases that the writer has come to regard this gradual extension and loosening as an important part of the treatment in these cases." When one reflects on the amount of mental misery these scars cause, their removal becomes an object of great importance.

OPHTHALMOLOGY AND OTOLOGY.

THE MECHANICAL TREATMENT OF SUPPURATIVE INFLAMMATIONS OF THE TYMPANUM.—This article is intended as supplementary to an article which appeared in the *American Journal of Otology*, Vol. II., No. 3, July, 1880, entitled "The Dry Treatment in Suppuration of the Middle Ear." I now use the term *mechanical* as opposed to *medicinal*, and I have chosen it in preference to using the phrase "dry treatment," for this latter has been applied to the treatment of suppurative troubles by the insufflation of powders, to distinguish this from the treatment by the instillation of fluids. Further and sufficient experience has confirmed me in the views which I advanced at that time, and the subject is one of such importance that I feel called upon to advert to it again. The evils which may result from the treatment of suppurative processes in the tympanum—acute or chronic—by the forcible injection of water, and the instillation of fluids, are recognized at the present day by aural surgeons generally that it would be out of time and place to dilate upon such procedures.

The *antiseptic* treatment of these disorders received a valuable impetus from Listerism, which has pervaded every department of surgery. The adaptation of means to an end has wrought the substitution of a dry antisepsis for other forms,—washes, spray, etc., which perform the important office of Listerism in other localities, and under other conditions. I shall make very brief reference to the methods and agents which otologists have employed, and it will serve to mark the steps which have led to that method which I have adopted.

Modern surgery, in its almost feverish heat after new remedies against the dangerous micro-organisms, has traversed the entire domain of therapeutics, and has laid tribute upon every new contribution of the pharmacist's art. Gruber,[1] in an article published 1880, discusses the relative value of many of these agents from the standpoint of otology, and details his manner of using them, which will answer to illustrate the general practice. After considering carbolic acid, salicylic acid, thymol, etc., he proceeds to give his experience with two other remedies which have come to be highly regarded in aural therapeutics, and are in very general use to-day, natrium boracicum (common borax) and boracic acid. He says (I translate from the article referred to): "Another remedy for chronic inflammatory processes accompanied with otorrhœa, which for fifteen years I have used and recommended, is common borax. * * I prescribe it in solution for instillation into the external auditory canal, for injection through the Eustachian tube,[2] and lastly, as a gargle for simultaneous affections of the throat. I have not used it in powdered form, as I have been afraid that it would produce effects similar to those which I have observed when using alum powder, *i.e.*, the formation of concretions in the depth of the canal, which might give rise to very disagreeable complications. Of boracic acid Bezold speaks highly. He praises its antiseptic properties and other advantages, 'the first of which may be regarded a *complete absence* of a *reaction* of the mucous membrane of the middle ear under its application and operation." He recommends the following method when using it: After the meatus and cavity of the drum have been carefully cleansed by an injection of a saturated solution of boracic acid, and after thoroughly drying it, and having used the air douche, finely powdered boracic acid is blown in by means of the powder-blower. After this a little of the powder is poured into the canal, which is then closed with salicyl-carbolated cotton. These manipulation are to be repeated as often as the wadding is noticed to be moist with any of the secretion."

Professor Gruber states that he has employed this method of treatment in a great number of cases, and has never noticed any irritation that could be ascribed to its agency as the cause, and adds: "On the contrary, its influence on the exudation of the inflamed parts has been so remarkable that I consider this method of treatment one of the most valuable." He goes on to say: "To convince myself whether boracic acid or borax has greater effect in controlling otorrhœa, I made test experiments with the latter, proceeding in the same way as has been described" (Bezold's method). His conclusions were, "That pulverized boracic acid diminishes otorrhœa more than does borax; that in solution of the same concentration the solution of borax is more effectual than that of boracic acid."

Opposed to the method of Bezold, as here described, which is the common practice, with slight modification, influenced by pathological stages and conditions, is Becker's method, which dispenses entirely with the bath. The latter employs the cotton-holder and absorbent cotton in conjunction with the air douche for the removal of secretions. Dr. Todd, of St. Louis, in a paper entitled, "The Dry Method of Treatment of Discharges from the Ear,"[1] presents in a very forcible and convincing manner the arguments which have led to the substitution of a dry treatment for the old method in which the syringe was freely employed.[2] My own experience has led me to the conclusion, that in chronic troubles rarely, in acute ones never, do we need to employ the bath for the removal of products of inflammation. In the one case it is inefficient, in the other wholly impracticable. The manifold and complicated recesses of the cavum, the drum-head being swept away, are inaccessible to any force of the syringe that could be with safety employed; and most certainly an opposing drum-head places a further and insuperable obstacle in the way in proportion as its integrity is unimpaired. As I have expressed my convictions so decidedly, I desire, as a matter of record, to state that this rule is not without exception, particularly in the case of chronic suppurations. Dr. Blake has rendered a valuable service to otology in the contribution of his middle ear syring. As there will be required, at times when the accepted and most highly approved remedies have failed, that we resort to other medical means,—so there are conditions when we shall be compelled to use water—to detach hidden and intractable masses covering seats of disease, and which render any progress toward recovery impossible. These masses will most often be found in the recesses of the roof, and those posterior in the direction of the mastoid.

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[1] Allgemeine Wiener Med. Zeitung, No. 30, July, 1880.

[2] I believe that the weight of authority on this side of the water would be opposed to the injection of fluid by the Eustachian tube, as well in these forms of disease as in the non-suppurative,

[1] Transactions Missouri State Medical Association.

[2] Dr. Todd recommends very highly the use of powdered borax. In my experience I have not found this remedy as beneficial as I had hoped,—its effect being in acute processes to heighten the inflammatory tendency. I have not infrequently observed a corrosive influence which must arise from a product of chemical union between it and the secretions. In the dryer inflammation affecting the dermoid coat of the meatus, it does not produce this effect, and is a most valuable remedy. For this latter use of borax I am indebted to a suggestion from Dr. Todd.

The mechanical treatment of ear suppurations is especially applicable to the acute forms, but it is also of great value in certain chronic conditions and forms of inflammations to which I shall refer later on. This method of treating acute suppurative otitis has been employed by me now in a great many cases, and with such signal good results that it is only in very exceptional instances that I deviate from it. The theory of it is founded upon the same law as that which governs the general surgeon in the treatment of similar conditions of inflammation located elsewhere. It may be summed up in one word, *compression*. The object is to dispose of stagnant blood, and to prevent the afflux of blood to the seat of disease. It would be an axiomatic statement to add further, where there is no stasis of blood there can be no suppuration, and where the afflux of blood is estopped there can be no inflammation. To meet these plain indications I have employed the air douche and a cotton compress placed at the fundus of the external auditory canal. The office of greatest importance which is performed by inflation of the ear is the compression which is made upon the tympanal walls through the direct impulse of air, and the continued pressure which the air is enabled to exercise, the channel for its normal introduction being reestablished. This operation, of momentous importance in the first stage of inflammation, exercises a healthful influence throughout, apart from the effect it has of freeing the cavity when suppuration has set in, and the drum-head has been ruptured. Following the same reasoning I have been led to apply compression and support to the external surface of the membrana tympani, and to the external auditory canal, which not infrequently become involved in the inflammatory process. The compression which is made by the cotton is uniform and constant, and upon the walls where the underlying tissues are bone it will be seen that it can be made most efficient. The absorbent cotton at the same time does not offer an obstruction to the exit of matter from the cavity of the tympanum; on the other hand, it rather encourages it from its ready absorption of fluid. It is not necessary to state that the compress should be removed as frequently as it becomes saturated, and a fresh one be introduced. In my experience this method of treatment in the early stages of pain will commonly obviate the necessity of leeching—patients frequently being affected by the greater sense of relief, who, before the operation, were suffering intensely. A plug of antiseptic cotton may be placed over the compress, and in adults an antiseptic spray application should be made to the accessory cavity of the posterior nares. In young children the spray of course becomes a formidable operation, and a mild ointment snuffed through the nostrils suffices to remove accumulations from the neighborhood of the pharyngeal orifices of the tubes, which may be medicated also to suit the condition of the mucous membrane to which it becomes applied. This means of treating these cavities can be instituted effectually in infants by closing the mouth with two fingers of the hand when the expiration in crying has been completed, forcing the inspiration to be taken through the nostrils. It is necessary to be thus explicit, believing that attention to details influences largely the success of treatment. I attach great importance, also, to the constitutional treatment in these cases, and the system should be recovered as promptly as possible from the depression and consequent derangements of function which are induced elsewhere in the system. The subjects of this disease, when we leave out those cases which have supervened upon fevers, etc., are of a low constitutional habit. Therefore, so soon as the indications for relief of pain have been met, whether by opiates or through creating a diversion by means of laxative and sudorifics, a tonic treatment should be instituted which may be expressed by one of the malt preparations, codliver oil, quinine, or iron. It will often be found of great advantage to give a medicine with specific reference to the nature and location of the inflammatory process which is going on. At the head of this class of remedies I should place mercury.

The best argument for a method of treatment to establish its claim to superiority over other methods in use must be in results which have been obtained. I regret that I have not preserved records with special reference to this from the time when I first began to employ the mechanical treatment. It will suffice, however, to give statistics from recent practice, and I am confident that the results in a greater number of cases would not differ materially from this. In forty-six consecutive cases—four were recovered under four days; seventeen within six days; four within seven days; twelve within ten days; four were treated for two weeks; three for three weeks; and in two cases the treatment was prolonged to six weeks. In each of the protracted cases the syringe had been employed previous to the time when the case came under my care. In one instance the aural inflammation was complicated by a low grade of fever (typhoid), to which the ear trouble was a sequel.

The Mechanical Treatment in Chronic Suppuration.—It might be a difficult matter to state just where acute suppurative processes terminate and chronic suppuration begins. But I refer in the use of this term, and so far as this method of treatment is applicable, to the continued suppurations in which only a limited destruction of the outer wall of the tympanum has occurred. There exists no longer the indication for that use of the cotton which obtains in the acute inflammations.

The office which it performs may be said to be largely a protective one to the tympanum against evil influences from without. In this class of cases it is not a substitute for the *dry* treatment, but supplements it rather, and the advisability of its employment must be governed by the judgment of the surgeon. In a number of instances I have effected through its operation a growth of membrane in the same manner as this is brought about by Blake's paper disc. It has been in the smaller ancient openings, and taking advantage of a period of arrest in the suppurative process. Using the cotton for this purpose, I would recommend moistening the surface which is presented to the drum-head; and, subsequently found to be adherent, it should not be disturbed, its detachment being effected in time by natural process. There are other forms of chronic suppuration of the tympanum where there is greater loss and relaxation of the membrana tympani than is contemplated in those cases just referred to, which we would expect to obtain relief for in the treatment by compression. As in the acute stage of inflammation, when from closure of the Eustachian tube and the consequent vacuum which occurs, we have the pressure taken off from the walls, and the relaxation of tissue which favors extravasation from the tympanic vessels, so in many chronic suppurative processes the discharge is kept up by the lack of support, which is supplied when the normal relation of the parts to each other is sustained. There is a want of tone and a proper vitality of tissue to place a stop upon this waste.

In these cases, being located where compression can be made to exercise a proper and evenly distributed support, I should hope for and have seen the greatest amount of good to result from this method of treatment.—H. N. Spencer, A.M., M.D., St. Louis, in the *American Journal of Otology*.

USE OF THE CARBOLIC SPRAY AS A PREVENTIVE AND CURATIVE OF SUPPURATIVE KERATO-IRITIS IN THE EXTRACTION OF CATARACT.—Dr. Galezowski (*Gaz. Hebdom.*) formulates the following propositions as expressing his results reached in a careful study of this subject:

1. The carbolic spray should form one of the indispensable conditions for ocular operations, and particularly for the extraction of cataract. The eye should be exposed to the spray during the entire operation, and after the operation is completed the eyelids should be widely opened and the spray directed immediately on the wound.
2. Each renewal of the dressing should be made under the spray.
3. Whenever, in the first three or four days, the least suppuration is detected at the border of the corneal wound, or an iritis with œdema of the eyelids, the spray should be used every half or quarter hour, according to the severity of the case.—*Medical News.*

THE Sultan of Turkey has given a site in Jerusalem for the purpose of erecting a hospice and ophthalmic dispensary under the auspices of the English branch of the Order of St. John.

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Cincinnati, August 5th, 1882.

Miscellany.

A PHYSICAL EXPLANATION OF DIAPEDESIS.—Dr. D. J. Hamilton had read before the Edinburgh Royal Society a paper on the circulation of the blood-corpuscles, illustrated by physical experiments. His views contribute greatly to the formation of a sufficient physical theory of the migration or diapedesis of the blood-cells from the vessels. It is known that the white cells are lighter than the plasma, while the red cells have nearly the same density. The white cells thus flow along the upper wall of the vessel, where they are subject to friction, and are carried slowly along by the slower peripheral current. The red cells move along the axis, exempt from contact with the walls and from friction, and are hurried on by swifter axial current. Alteration in the density of the plasma might modify or invert this relation so essential to the circulation; mere hydræmia without any other disorder might thus lead to obstructive vascular disturbance of a serious kind. The so-called passive congestions and inflammations of albuminuric dropsy may have this cause; loss of albumen altering the general density of the plasma. Experiments were shown with a curved tube to illustrate how, when the blood current is slowed even to statis, the white cells gather at the periphery of the vessels. A light sphere in a low stream cannot pass the first bend but lingers at the upper surface. A sphere of the same density as the liquid passes on quite easily. With a quicker stream both spheres are carried on. Thus in a vessel, when as in inflammation the current slows, a filtering action is exerted by the tube upon the white cells, the red cells being carried on. Another experiment was shown to illustrate the way in which the white cells thus gathered in the surface layer of the plasma are driven through the vessel wall. A tube was taken, in which a portion six inches long and embracing half the circumference had been replaced by a number with pin-point apertures. Pieces of thin gelatine half an inch square were introduced and circulated with the water in the tube. So long as the distal end of the tube was open, the water did not exude from the apertures, much less the pieces of gelatine. When the end was obstructed, the current slowed and the pressure raised, fine jets of water issued from the pin-holes, the pieces of gelatine gathered there, and were extruded in great numbers, though they were, perhaps, thirty to sixty times as large as the apertures. First appeared a bud-like process outside; this enlarged, and finally the whole mass pushed through, just as is a leucocyte in diapedesis. The author's conclusions are:

1. The leucocytes in inflammation are driven through the natural apertures in the vessel-wall by the diverted blood-pressure.

2. They are extruded in greater numbers than are the red cells, because in the slowing of the stream they have gathered at the periphery and are applied as it were over the apertures in the vessel wall; the red cells are still circulating freely in the axis of the vessel. If the circulation be suddenly stopped as by ligature of a vein, the red cells pass through the water in greater numbers than the white; there has been no time to form a peripheral layer of white cells.

3. The amœboid movements of the white cells may help in their extrusion, they are not the primary factor. Any soft pliable bodies would be similarly extruded. In lipæmia oil-globules pass through the vessel walls when there is obstruction, and from abscess-like collections of oil outside and around the vessels.—*The Practitioner.*

THE ABSORPTION OF VIRUS.—A few months ago a paper was read before the Académie des Sciences by M. Davaine on the rapidity of the absorption of virus from the surface of wounds. He found that when sudden wounds were cauterized three-quarters of an hour, an hour, or even three hours after they had been inoculated with blood from animals suffering from anthrax, seven rabbits survived out of ten inoculated. Similar results have also been obtained by M. Rodet. He also operated on rabbits, making the inoculation at the extremity of the ear, which he removed after a variable time. Of eight rabbits in which the same-sized portion of the ear had been removed four died of anthrax, the part having been removed two, five, and nine hours after the inoculation; four survived, the removal having been made one, three, seven, and ten hours after the inoculation. Of nine animals similarly treated, six died in which the extremity of the ear was removed at variable intervals from one to nine hours after the inoculation, and three survived, the interval before removal having been three, five and six hours. Other similar experiments were made, and altogether of forty-one rabbits thirty-one died, and ten survived. These results are very different from some which have been obtained by Renault and Colin, and Rodet has endeavored to variability in the results. These seem to be—first, the special and varying activity of bacteria, the multiplication of which undoubtedly plays an important part in the phenomena; secondly, the nature of the organic soil in which they are, so to speak, sown, which doubtless presents some differences, even in individuals of the same species; and, lastly, the precise part of the subdermic tissue in which the bacteria are placed, and which may be more or less favorable to their multiplication, and to the infection of the organism. M. Davaine has attached chief importance to the nature of the wounds, but Rodet has obtained the same results by various methods of inoculation, and hence the influence of the nature of the wound can be but slight.—*London Lancet.*

LIQUID GLUE.—A glue ready for use is made by adding to any quantity of glue common whiskey, instead of water. Put both together in a bottle, cork it tight, and set it aside for three or four days, when it will be fit for use without the application of heat. Glue thus prepared will keep for years, and is at all times fit for use except in very cold weather, when it should be set in warm water before using. To obviate the difficulty of the stopper getting tight by the glue drying in the mouth of the vessel, use a tin vessel with the cover fitting tight on the outside to prevent the escape of the spirit by evaporization. A strong solution of isinglass, made in the same manner, is an excellent cement for leather.

REMARKABLE CRIMINAL HEREDITY. — Most readers are acquainted with the history of "Margaret, the Mother of Criminals," as she has been called, who was born in a village on the Hudson river, in the northern part of the State of New York, about 100 years ago. Dr. Elisha Harris, of the city of New York, is authority for the following statement, which is the result of his personal inquiries: "Margaret was a pauper child, left adrift in one of the villages on the upper Hudson, about ninety years ago. There was no Almshouse in the place, and she was made a subject of out-door relief, receiving occasionally food and clothing from the town officials, but was never educated nor sheltered in a proper home. She became the mother of a long race of criminals and paupers, which has cursed the county ever since. The county records show two hundred of her descendants have been criminals. In one generation of her unhappy line there are twenty children, of whom seventeen lived to maturity. Nine served terms aggregating fifty years in the State Prison for high crimes, and all the others were frequent inmates of jails and almshouses. It is said that of the six hundred and twenty-three descendants of this outcast girl two hundred committed crimes which brought them upon the court records, and most of the others were idiots, drunkards, lunatics, paupers or prostitutes. The cost to the county of this race of criminals and paupers is estimated as at least $100,000, taking no account of the damage they inflicted upon property and the suffering and degradation they caused in others."—*Pacific Medical and Surgical Journal.*

MORELL-MACKENZIE'S NUTRITIVE ENEMA. — After a long experience in the London hospital, the Professor concludes that the following is the best formula:

Cooked beef, mutton or chicken,	110 grams.
Sweetbreads,	50 "
Fat,	20 "
Cognac,	.7 "
Water,	75 "

These different substances, when thoroughly mixed, melt down to about 260 grams. The meat, sweetbreads and the fat may be passed through a very fine sieve and the whole mixed with the water, after the fashion of making a thick paste.

The enema should be administered at a temperature of 32° to 35° Centigrade (90°–95° F.), and it should be administered only twice in twenty-four hours.

The rectum should be washed two or three times a week with tepid water, three or four hours previous to administering the nutritive enema.—*Lyon Médical*, June 18, 1882. J.M.F.

THE INHIBITION OF SPINAL RESPIRATORY CENTRES.—Langendorff has made some experiments upon irritation of the medulla oblongata. He holds that the respiratory centres are seated in the spinal cord; he tries to explain Flourens' experiments why, after injury to the medulla oblongata, or after cutting away of this part of the brain, the breathing is usually arrested. First, he takes the position that the mechanical injury to the medulla oblongata is a shock to the spinal centres lying in the neighborhood. He believes the medulla oblongata is the seat of a regulatory or inhibitory centre whose impulses go to the spinal centres of the respiratory nerves. The mechanical irritation of this apparatus or its paths, by a section of puncture, produces a lasting inhibitory effect upon the activity of the spinal centres. The existence of an inhibitory apparatus in the medulla oblongata is a necessary conclusion, for in the central trunk of the vagus, inhibitory fibres run partly from the two laryngeal nerves, and partly from the lungs, and find their next station in the medulla. The question then arises: is one in position, through irritation of the medulla oblongata, to inhibit the respiration of an animal? He tried electrical, mechanical, and chemical irritation. The experiments were mainly made upon rabbits. He thinks that his results may be explained by the view, that in the medulla oblongata are centres whose irritation inhibit the respiration, and that it can be held that the section into the medulla not only irritates this apparatus but also exerts a shock upon the spinal respiratory centres lying in the neighborhood.—*DuBois' Archiv.*

THE RESPIRATORY CENTRES. — Langendorff found with Longet and others that, after section in the median line of the medulla oblongata, respiratory movements of both halves of the diaphragm continue synchronously. He saw the state of affairs to alter when the vagus nerve or both are divided: the frequency and depth of the contraction of the two halves of the diaphragm were not synchronous. By division of the vagus on one side the breathing on that side was slower than upon the other. He thinks that the true centres of respiration are in the spinal cord and that the oblong medulla has the centres regulating their action.—*DuBois' Archiv.*

H. W. P. WILSON ("Flora") finds that in many plants the excretion of carbonic acid decreases at once if a supply of oxygen is excluded. Hence the view that the carbonic acid exhaled by plants had its origin in inter-molecular decompositions, independent of the oxygen of the air, is untenable.

A CAUSE OF NASAL CATARRH.—In the *Arch. für Ohrenh.* (Bd. XVII. 4 heft.), Dr. Walb reports a case where a purulent discharge of the nose was provoked by a carious tooth. The final extraction of the tooth put a stop to the ozena.

THE powder of the pyrethrum, or common insect powder, is recommended very highly for *pediculus pubis* by an Eastern pharmacist, who seems to speak from experience.

SULPHURIC ether is said to have the property of modifying the very persistent and unpleasant odor of oil of turpentine in mixtures.

LYCOPODIUM can be put to an excellent use when sprinkled over oiled silk. It prevents the fabric from adhering together.

ACCORDING to M. Danillo, the progress of poisoning by absinthe presents an analogy with the effects of strychnine.

PROF. WILLIAM H. MUSSEY, M.D.,

DIED August 1st, in this city, of apoplexy.

Two weeks ago it was our mournful duty to chronicle the death of Dr. Nathaniel Foster. With this issue we announce the decease of Dr. William H. Mussey, one of Cincinnati's best and most widely known physicians.

In our next issue will appear a biographical sketch of Dr. Mussey and the action of the profession and other bodies of which he was a member.

Original Communications.

EPILEPSY.—TWO CASES.—INDIANS.

By William F. Harvey, M.D.,
Lawrence, Kas.

Below I report two cases of Indians, one Arapahoe and one Cheyenne, that came under treatment while I was filling the post for a few months of physician to the two tribes of Cheyenne and Arapahoe Indians, in one agency, at Darlington, Indian Territory:

Case 1st. Hippy, a Cheyenne, called during the month of September, 1881, for treatment. Careful examination into the history and condition previously revealed the fact that he was laboring under epilepsy with "fits" two or three times a week. He was habitually constipated, appetite mostly good; tongue clean, other than what tobacco smoke left upon it. When he first presented himself there appeared to be no sign of any disease, except constipation, and some enlargement of abdomen, which, at first sight, seemed to be natural, but on closer scrutiny showed a possibility of worms.

Treatment: He was given worm medicine in connection with cathartics, as follows:

℞ Santonine,
Pulv. Jalap,
Pulv. Aloe, Soc.,
Pulv. Sachar. Alb., āā ʒ ss.

Mix, divide into ten powders, and to six of them add to each ten grains of calomel.

S. One of those containing calomel to be taken each morning on an empty stomach, and one of the others at noon and one at night.

Also the following:

℞	Brom. Ammon.,	℥ ss.
	Brom. Potass.,	℥ ss.
	Pulv. Camph.,	ʒ ss.
	Pulv. Fer. Ferrocyanuret.,	ʒ j.
	Pulv. Glycyrrhiza,	℥ ss.

Mix. Divide into fifteen grain doses.

S. One to be taken every four hours till the "fits" do not recur oftener than once a week, then regularly morning, noon and night.

Result of the above treatment was the cessation of the paroxysms to about every two or three weeks at first, and finally an entire cessation while under the influence of the medicine. He had not had a "fit" for nearly two months before I left, till a few days before, and he had been out of the medicine for a while.

Case 2. An Arapahoe, young man, was thrown from his horse and fell on his head and shoulders. Symptoms when first seen by the reporter: Respiration about five per minute and almost a cessation, unconscious, pulse scarcely perceptible, hemorrhage from both ears, a bad bruise on left temporal and parietal region, especially about the attachments of masseter to those bones. No other visible signs of injury. An Indian squaw was supporting him, at an angle of about forty-five degrees prone, and an Indian doctor was sucking the "Devil" (disease) out of him, by applying his large thick lips all over his chest, neck and face, and sucking with all his power.

The ridiculous operation of the Indian was such that I could not help thinking of using the means recommended to cigar smokers when they get a particularly bad cigar, that is to apply a drawing plaster to the back of his neck to help him draw out the evil spirit. I did not do it however.

This operation he continued for some time, while I watched its effect, which was absolutely nothing towards giving relief. Occasionally the doctor would fill his mouth with water, and then spurt it in the form of spray all over the face and chest of the patient, this, for a moment, seemed to shock his nerves so much as to rouse him a little, but only for a moment.

After satisfying myself that the doctor's manœuvers would be all unavailing, I gave the patient ammonia on a sponge to inhale, which, in a short time, roused him so as to cause his respiration to be more frequent and regular and his pulse to come up. This was the only treatment, except applications of cold water over his head, till he was sufficiently aroused to take him home, one and one-half miles distant. The treatment from this time was regular inhalation of aromatic spirits of ammonia whenever the respiration showed signs of failing, also cold applications to his head, and as soon as he could swallow gave a cathartic. His bowels were moved by injections of salt water. During twenty-four hours he revived so as to be able to swallow what was put into his mouth. Cathartics were thereafter given and light food, rice, crackers and tea, without animal food. This treatment was continued for a couple of weeks, and I was arranging one morning to visit him at his home to learn how he was getting on, when a face was seen peering around and looking in from outside the office door, I went to the door to see who it was, and found standing there my *dead man* that I expected to either find at home or buried. His improvement went on steadily, but for a week his ears bled freely at times, and I think that that saved him by preventing extravasation or clotting of blood within the skull.

Notwithstanding the rapid recovery (for he was well apparently in three months from that time), which was promoted by the use of bromide of ammon., potassium and camphor, to cure the headache he complained of when he came to the office; and notwithstanding bleeding of the ears may attend concussion of the brain and also other injuries, yet I set this case down as one of "fracture of bones in the base of the skull," fracture of the petrous portion of the temporal bone, and possibly cuniform process of the occiput, with rupture of some of the sinuses or small veins and possibly the membranes of the brain, arachnoid, dura and pia mater, especially these last. I think any white man would have been killed at once should he receive such an injury.

Resection of the Pylorus.—Dr. C. Max Richter, of California reports a case of resection of the pylorus for cancer. The patient died three hours after the operation.

Correspondence.

LAKEWOOD AS A HEALTH RESORT.

KENT HOUSE, LAKEWOOD,
Chautauqua Co., N.Y.

Editors Lancet and Clinic:

With the return of another summer I find myself enjoying the quiet pleasures of this delightful region. Away from the sweltering heat of a large city, where sultry nights join hands with scorching days and malaria mingles its poison with a sooty and dusty atmosphere, to feel this cooling freshness and breathe this wholesome air. Lake Chautauqua is thirteen hundred feet above the level of the sea, and over seven hundred feet above Lake Erie; it is consequently free from the baneful influences of lowlands and swamps. Malaria is here unknown and summer diseases, which infest the land generally, disappear almost completely from this locality. Here the scourge of the infant population known as summer complaint does not rage, and the everywhere familiar name of entero-colitis is never heard. The physicians of this locality are, during the heated term, overwhelmed with leisure, being reduced to the extremity of treating chronic cases and accidents. I say "heated term"—there is no *heated* term here in the sense that we at Cincinnati understand it. The days approach the summer mark at noon, but towards evening the temperature always becomes delightfully cool, and at night a couple or more blankets are indispensable.

How the little ones enjoy the beautiful lawns, the cooling shades, and the healthful air of Lakewood; what a solace for the careworn business man, whose exhausted brain and distracted nerves have threatened to dethrone his reason; what a comfort for the chronic invalid, female or male, whose infirmities make them the constant victim of extreme heat or an unhealthy locality. I have seen already during my short stay, the puniest bantlings—children, whose slender necks were unable to support the head and whose emaciated limbs refused to carry them a dozen steps—so improve, that in a week's time they were able to toddle all over the grounds and make their share of mud pies in the bargain. This is of all places the place for sick children, especially for those affected with all troubles of the bowels. To bring such children to Lake Chautauqua is to remove the cause of their disease. Take away the influence of malaria and that of hot days and sultry nights, and almost every child will prosper through the teething period; this is exactly what is done by bringing them to this place, and the rapid improvement in every ordinary case cannot be wondered at.

That this climate is so conducive to the well being of children is fast being found out; for parents, charmed with the effect upon their little ones, flock hither every season to escape the diseases peculiar to summer and link enjoyment with health.

Hundreds of children play upon the lawns, while adults, in search of novel pastime or adventure, ramble through the woods or take a pull upon the lake. Still others patronize the delightful drives, whose beauty cannot be conveyed in words. This morning a friend who owns a boat invited me to take a sail, and honored me with a seat at the helm. As the rigging cracked and spray dashed aloft, and white caps, like so many spectres, rose around us, I thought for a moment of salt water sports; but a glance at the bordering hills, golden with the harvest's wealth, the luxuriant forests of hemlock, and the fairy village of Lakewood in the rear, dispelled all thoughts of tide-water and marsh.

The Kent House is a model of neatness and elegance, and withal the most tony hotel in the place. It affords every luxury that the rich can find at home, every comfort that the well-to-do can command. The proprietors own the building and have spared no expense that would better enable it to serve the wants of the public. The rooms are all well exposed to the air and sun, rendering ventilation excellent, with gas, water, and electric bells all through the house.

The cuisine is splendid—indeed our king of cooks at the St. Nicholas in Cincinnati could not surpass it. Those who were here last year would now notice a decided improvement in this feature of the house.

The ball-room is about one hundred yards away from the hotel, a fact which admits of perfect quiet for those who do not wish to dance. The music this season is excellent; it could not well be otherwise, for the orchestra is composed of native Italians, into whose being melody seems to have found a favorite nidus. The bar-room is behind a secret panel, as everything here is temperance; but to the rusty-throated guest there is this consolation—"Seek and ye shall find, knock and it shall be opened unto you." All those visiting Lakewood should not omit a ramble through the woods for ferns, and the lovelier trip to the lily beds of the beautiful winding outlet. The tropics are not more lavish in the array of vegetation and wild flowering plants than this part of the lake; and while the shrubbery is alive with birds, the water teems with glistening fish and piebald turtles.

I have omitted mentioning one of the important features of this place: the singular absence of flies and musquitoes. I have seen but one fly since my arrival and not a single musquito. One can sit down to eat, or lie down for a nap after dinner without fear of these torments, and as for musquitoes one must search in the densest thickets to find a single survivor.

Altogether, I must say that I am delighted with this quiet dreamy place. Its beautiful sheet of smooth water, its green and golden hills, its verdant native forests and the villages scattered about its banks, combine poetic beauty with that healthfulness which humanity always seeks.

Though I have mentioned Lakewood in particular as a resort adapted to the cure of puny children, I am prepared to assure older ones that they will always be delighted with a visit here during the summer.

As the poet has written of an older place let us speak of this:

"Fair scenes for childhood's opening bloom,
For sportive youth to stray in,
For manhood to enjoy his strength,
And age to wear away in." R.B.D.

Reports of Societies.

AMERICAN DENTAL ASSOCIATION.

The twenty-second annual meeting of the American Dental Association was held at the Highland House, Cincinnati, August 1, 2, 3 and 4, 1882, Dr. H. A. Smith, of Cincinnati, in the chair and Dr. Geo. W. Cushing, of Chicago, Secretary.

Dr. A Berry, the oldest dental practitioner in Cincinnati, delivered an address welcoming the Association to the "Queen City of the West," which, on account of the modesty of the President, was responded to by the First Vice-President, Dr. W. C. Barret, of Buffalo, N.Y.

Drs. Field, Buckingham and Taft were appointed a committee to draft suitable resolutions on the death of Dr. D. Hawxhurst.

Drs. Crouse, Shepard and Pierce were appointed as a committee to draft resolutions on the death of Dr. M. S. Dean, of Chicago.

On motion of Dr. Barret the secretary was instructed to send the symathies of the Society to Dr. Marshall H. Webb, of Lancaster, Pa., who is lying dangerously ill.

FIRST DAY.—AFTERNOON.

The President, Dr. H. A. Smith, of Cincinnati, read the annual address, of which the following is an abstract:

After eulogizing the talents and social qualities of the late Dr. M. S. Dean, of Chicago, he said, in his address last year the President had called attention to the fact that etiology—the science of the causes of dental caries—had been almost wholly neglected by essayists who had contributed to the proceedings of the association, and suggested to the section embracing etiology that a committee be appointed for the object of making a careful, systematic study of the causes which contribute to the existence of dental caries. When it was considered that much the larger proportion of their time spent in actual practice was occupied in the treatment of lesions caused by the almost universally prevalent disease, which were denominated dental caries, and that notwithstanding the subject had been extensively studied, the fact confronted them that the efficient cause of dental caries was still a matter for speculation, it was noteworthy, as well as encouraging, that the subject received so large a share of attention before the section devoted to the consideration of diseases of the teeth at the International Medical Congress, held in London last year. With the view of stimulating investigation in this direction, he would respectfully suggest that the association offer a prize to members, of not less than $200, for the best paper based strictly upon original investigation relating to etiology of dental caries, the award to be made and announced at the annual meeting in 1884. If there was any deficiency in the treasury for that purpose, it might be met by an increase in the annual membership fee, or the whole amount may be made up by voluntary subscription of the members. Whether dentistry should be taught in special colleges or in a regular university course with other studies was a matter that might safely be left to time, the great arbiter of all things.

Dr. Wm. H. Atkinson, of New York, Chairman of Section 3, "Dental Literature and Nomenclature," read the report of that section. It was a continuation of the same subject embodied in the reports of that section for the last three or four years. In his report he endeavored to explain a new system of language, based on the supposition that all languages were one and the same. He explained the meaning of two words, bauski and vauski, the former referring to organic esmology, the latter to inorganic esmology or biology. There were eight divisions of biology according to the eight vowel sounds.

At the conclusion of his remarks, to which the Association had listened without understanding a word, Dr. Geo. Watt, of Xenia, O., said that the report was entirely irrelevant and foreign to the purpose of the section under which it was read and as this was not a philological association he hoped they would not be bored with any more such reports. So he moved the report be referred to a special committee of five to decide whether it should be published or not.

After a somewhat heated discussion by various members of the Association, Dr. George Watt arose to explain his motion. He had always been a great friend of Dr. Atkinson. Still the Doctor's subject had been purely philological, it had not been on dental nomenclature. The society for the last four years had not been benefitted by the discussion. And now came a continuation of the subject with the same animus from the same animile. There was not an original thought in the paper. Its thoughts were the vaporings of Stephen Pearl Andrews. Hence he had put his motion to appoint a committee in order that it might be decided whether the society records should still be burdened with such useless matter. He did not care what the committee would do, whether they decided to send the essay to the Patagonians, or whether they bound it in morocco or calf—calf would be better —or distributed it for the enlightenment of the people, so long as they disposed of it. Perhaps it would be better to send the paper back to its original author. However, under no circumstances could he be tortured in to any feelings of disrespect against the Doctor. He was a great man, but the subject matter was entirely irrelevant to the object of the meeting. Should it be decided to put the paper on record, he would be pleased to learn every word of it by heart.

The motion was carried and Drs. Keely, Odell, Friedrichs, Rehwinkel and Pierce were appointed as the committee.

SECOND DAY.—MORNING.

The privileges of the floor were accorded to Prof. Mayr, of Springfield, Mass., who, after thanking the Association for the compliment, said: There is too much taken for granted. When I began to study the cause of dental caries I supposed that the subject had been thoroughly investigated, but judge to my surprise when I found sixty per cent. of lime salts in the carious dentine, and yet they talk of the "acid theory." It is so with other subjects as well.

Dr. C. N. Pierce, chairman of the committee appointed to investigate the merits of the paper on philology, read by Dr. W. H. Atkinson at the opening session, made the following report:

The special committee to whom was referred a paper on philology, read by Dr. W. H. Atkinson, as chairman of the section on "Dental Literature and Nomenclature," would respectfully report that they have carefully considered the subject referred to them, and are of opinion that the paper under consideration is foreign to the purpose of the section under which it was read, and that if the association desire further communications upon general philology that a section of that title be created; but in view of the fact that at previous meetings of this association similar papers have been received without adverse criticism, they would suggest that this one be allowed to take the usual course, and go with other reports to the Publication Committee.

Dr. W. N. Morrison, of St. Louis, Mo., then read a paper entitled "Some Thoughts on the Correction of Irregularity," of which the following is a synopsis:

During the whole course of his professional life, he had only made one mistake in regulating teeth. In that case the patient never developed to normal size; small in stature, diminutive in physique, with large good teeth in a small mouth, he was free to admit that she would look a little better with that part of her anatomy less prominent. But look at the thousands of cases to the other extreme! The public were clamorous for deformed mouths! The first demand was to have all teeth extracted, and have all artificial little, narrow, white teeth; second choice, about the half of their teeth extracted to improve their appearance and keep them from decaying, and thirdly, to have the crowns of the remaining teeth horribly mutilated by filing and grinding. And it was a disgrace to the profession that there were so many claiming to be progressive dentists, who yielded to the demands and practiced to their requirements. A few months ago the public and a few silly snobs through the press went into ecstasies over Patti's small mouth and beautiful teeth, while in reality it was a deformity —teeth irregular, one canine so much out of the arch that when she cast a bewitching smile, her lip sometimes caught upon it, and it was with some difficulty that she could get it down. Her profile had that sorrowful, dinged in appearance, so common at this time. Several years ago the papers had given an account of the selection of a characteristic American female head by the designer of the new silver dollar, that should accurately represent the correct type of American beauty. He did not know the lady, nor her dentist, nor did he have any information in regard to the condition of her teeth or articulation, but, seeing her face upon the few dollars which had passed through his hands, he would venture the assertion that her mouth did not contain thirty-two normally formed teeth. In treatment of cases the great difficulty was to control the patients and parents. Teeth were easily moved if the force be applied in the right direction, but they are as easily returned to their old places. He, therefore, had decided objections to all of the complicated apparatus, and these were obviated by his system of regulating with screws and levers and rubber ligatures, which were secured to the teeth by thin annular bands or ligatures of platinum, cemented to the teeth with oxophosphate of zinc, where they remained until the operation was entirely completed.

Dr. W. H. Atkinson regretted to see so little inclination to discuss the paper. There were a good many aphorisms in it that were orthodox and in accord with nature with few exceptions. The screw should never be used to move a tooth, a very slight force, constantly acting, is all that is necessary. There is a dearth of knowledge in regard to regulating teeth. The constant irritation of a tooth is wrong. We are now able to do in weeks what formerly required months. After we get the teeth in position most of them will stay there without retaining plates. The idea of giving a patient a plate with screws, levers and watch keys was an abomination. The speaker then proceeded to illustrate his method, which consisted of a thin band of iridium and platinum, which extended around the anterior teeth and had its extremities cast in a plate of Reese's metal, said plate extending over the grinding surfaces of all the molars and having depressions for the articulation of the molars of the opposite jaw. The speaker concluded by emphatically saying that this is *the* way of regulating teeth.

Dr. C. N. Pierce, of Philadelphia: That may be *the* way of regulating *some* teeth, but there are many cases in which it is no more applicable than it would be to the sole of the foot. All cases cannot be treated alike.

Dr. Shepard, of Boston: Did I understand Dr. Atkinson to say that the plate was never removed for cleansing from the beginning of treatment to the end?

Dr. Atkinson: Yes, the plate is not removed at all during treatment.

Dr. Shepard: Any appliance that cannot be removed and cleansed by the patient is not a good one. Such plates *can* be made. One defect in Kingsley's "Oral Deformities" is that in two hundred pages on this subject there are only three lines on cleansing the regulating apparatus.

Dr. McKellops, of St. Louis, spoke of Dr. Coffin's method of employing piano wire. An impression cup is fitted to the mouth and gutta percha, previously softened in hot water, placed therein. The cup and contents are then immersed in cold water for a few seconds, introduced into the mouth, pressed into position, allowed to remain a few moments, withdrawn and placed in cold water, to allow any part that has been disturbed on removing the cup to resume its proper shape.

A plaster model is made in the usual way and sheet wax spread over it covering the molars. A piece of piano wire, 15 guage, is then bent in the shape of a written letter m, with the initial and terminal stroke lengthened these ends are flattened, but *never heated*. The wire is immersed in a solution of chloride of zinc and then dipped in melted tin, this coating preventing the sulphur attacking the wire. The ends of the wire are imbedded in the wax, and the whole thing vulcanized, finished up and fitted into the mouth. After the plate has been worn a few hours, the plate is to be cut through the median line with a fine saw and the parts spread apart somewhat, and it is surprising how rapidly the arch may be spread. The wire can be used to push, pull or turn teeth in any direction. There is not the inconvenience with this plate that there is with others and it can easily be removed by the patient for cleansing and be as readily replaced.

While in London last year I saw models of 2,500 cases that had been treated in this manner. Dr. Coffin made a plate for my son, who is twelve years old, and in about ten days the tooth, a lateral, was in its proper position.

Dr. L. G. Noel, Nashville: Will that method regulate teeth where the cusps are interlocked.

Dr. McKellops: Certainly.

Dr. Noel: I have sometimes regulated teeth by using a thick rubber plate containing notches opposite the teeth to be moved, said notches being filled with wood the expansion of which forces the teeth out.

Dr. J. M. Hurtt, Peoria, Ill. (to Dr. McK.): Have you ever tried to regulate pulpless teeth?

Dr. McKellops: I have have had no experience in that direction,

Dr. L. D. Shepard, Boston: Dr. W. W. Clapp was with Dr. Coffin for six months and brought back some plates in 1865 and several dentists in Boston have been using them ever since. Dr. J. D. White had a split plate that is illustrated in Kingsly's "Oral Deformities," that is quite a different thing. I have been in the habit of using three sizes of wire. It is necessary to make the wire curved without any angles. I hope the members will adopt it.

Dr. Peale, of Detroit: If Boston dentists have used it that long without imparting it they ought to be reprimanded.

Dr. E. T. Darby, Philadelphia: It is important in capping the molars that they all be capped for those that are not will become elongated. I had a case in which the lower incisors struck the gum behind the upper incisors and made depressions in it. I made a vulcanite plate about one-tenth of an inch thick for the lower incisors to strike on and in the course of time the molars and bicuspids had elongated sufficiently to articulate, I then made a thicker plate and the teeth again elongated so that the incisors did not touch the gum.

Dr. W. H. Eames, St. Louis, gave a description of Dr. Patrick's method. The apparatus consists of bands fastened on the molars or the bicuspids, to which were soldered perforated projections through which a wire passed around the anterior teeth to a similar band on the other side. This band could be lengthened or shortened by a nut at each end. The teeth could be drawn out by silk ligatures or pushed back by wooden wedges.

Dr. C. R. Butler, Cleveland, O.: Dr. McKellops has described the plan adopted by Dr. Coffin, but has not given us any of his own experience. There are many things that are well enough on paper, but there is no cast iron mold through which you can drive all cases and bring out perfect results. Dr. Coffin's method is the simplest and most inexpensive and has the advantage of only moving the teeth desired, whilst the others are undisturbed, which cannot be said of Dr. Patrick's method.

Dr. Eames: Of the two Dr. Patrick's is the simplest as for a simple case it can be made in an hour.

Dr. W. H. Dorrance, Michigan: I want to caution those using the Coffin plates against using too large a wire, as the force will be too great, and when spreading the spring the same care should be exercised, as a very slight pressure will accomplish a good deal. The teeth can be moved in and out or rotated by the proper adjustment of the spring and ligatures.

Dr. McKellops: In all the cases I have shown all the molars were covered and I said that the plate should be worn a while without spreading.

Dr. G. W. Keely, Oxford, O.: I have been regulating teeth for a quarter of a century and I am always reaching out for some better way. Some time ago I had a case of a child with an upper central striking inside of the lower ones. I made a plate with a band extending around in front of the anterior teeth and with a rubber band drew the tooth in position in twenty-four hours. I then tied the tooth to the band with a silk ligature and instructed the mother how to do it. Teeth will not stay in place without retention of some kind. If I had it to do over again I would make a thick plate and insert a piece of sea-tangle and depend on its expansion to move the tooth. I often have patients come to me with the first molars wholly demoralized and in such cases I remove them, but do not find that the second molars tip, but that they come forward and fill up the space.

Dr. C. N. Pierce, Philadelphia: Economy of time and simplicity of appliances are of much importance. In regulating retreating upper incisors I take a piece of platinized gold, twenty-four guage and about one-sixteenth of an inch wide, and make each end pointed. I then drill a small hole in the tooth to be moved and one in the first molar and spring this piece in place. It is not in the way as it lies along the lingual surfaces of the intervening teeth. If the tooth does not remain in position a retaining plate should be made. The strip of gold should have a hole drilled near one end so that it can be tied in to prevent its being swallowed. The small pits can be filled after the teeth are regulated.

Dr. I. N. Crouse, of Chicago, cited a case of contracted arch in the lower jaw that he had succeeded in expanding by means of jack-screws.

Dr. B. G. Marklein, Milwaukee (to Dr. McK.): Are these plates as good for drawing teeth in as for forcing them out?

Dr. McKellops; Certainly, I have just passed a plate around illustrating that.

Dr. Marklein: In a case where the only anchorage to be had is the second superior molars, is that sufficient for drawing back the other ten?

Dr. Darby: In such a case I would wedge the bicuspids back and then draw the incisors and canines into place.

Dr. Morrison: The original Coffin plate was one with dovetails opposite the teeth to be moved in which were inserted pieces of wood, the expansion of which moved the teeth. I have made quite a number of these plates and accomplished good results with them, but I offer in my paper a substitute for so many appliances that require ligatures.

SECOND DAY—AFTERNOON.

The Committee on Resolutions, in reference to the death of Dr. D. C. Hawxhurst, reported a paper which was ordered spread upon the minutes. It recognized the capabilities of the deceased, and stated that he died when he had before him a greater sphere of usefulness. The heartfelt sympathy of the association was tendered to the stricken wife.

Dr. A. O. Rawls, Lexington, Ky., then read a paper on "Pulpless Teeth," (which, owing to the peculiar and rapid delivery of the speaker, I was unable to report.—*Reporter.*)

Dr. Harlan, of Chicago, read a paper on the "Treatment of Alveolar Abscess," in which he advocated the use of hydrogen peroxide and gave his mode of preparing it, saying that he preferred an etherial solution to an aqueous one as it was more stable.

Prof. Mayr: I have met with many persons who make use of the term vis vitæ, and yet I have not heard any one define it.

Dr. Rawls: It is a mysterious force.

Dr. Mayr: It is a mere empty word. I would like to know just how much vis vitæ is exerted. In regard to hydrogen peroxide, I suggested some time ago that it might be used as a bleaching agent, but the trouble is to apply it. We must first answer the question, "what colors a tooth," before we decide on a bleaching agent. There is, however, a diversity of opinion on this point. I believe it is due to hæmatine in some form. The antiseptic properties of this compound are due to the ozone liberated on the decomposition of $H_2 O_2$.

Dr. L. C. Ingersoll, Keokuk, Iowa: I have written several papers on this subject and I wish to call attention to ulceration that begins at the apex and extends to the neck. I venture to say that no pulp dies spontaneously without affecting the peridental membrane. What called my attention to this lesion was the extracting of a tooth that I had failed to cure and finding about one-fourth of an inch of the apex covered with calculus. The query was where did it come from? I did not have it analyzed. It is not found in connection with alveolar abscess but with alveolar ulceration. All the ingredients found in calculus exist in the blood and that is my reason for calling it sanguinary calculus.

Dr. Pierce: Do you find the process broken down in such cases?

Dr. Ingersoll: Yes, and that may be the source from which the calculus is derived, but I do not believe it to be the chief source as the amount of calculus is far greater than that of the broken down process.

Dr. Pierce: I wish to endorse the views of Dr. Ingersoll in regard to the source of the calculus.

Dr. Frederichs, New Orleans (to Dr. I.): How many cases have you met with?

Dr. Ingersoll: I saw a good many cases before I knew what they really were. Since that I have had some eighteen or twenty cases.

Dr. Morgan, Nashville: Do you not find it in the so-called Riggs' disease?

Dr. Ingersoll: It is one of the most prominent characteristics of Riggs' disease.

Dr. Rawls: There are two ways by which inflammation can take place in the tissues surrounding such teeth. It is due either to some external cause that dips down from the outside or to one that cuts off all nutritive material. The source of calculus is no doubt the one to which it is attributed. No part of the body is exempt from such deposits, but they occur only on free surfaces and they can only occur in tissues in which an opening has been caused by inflammation. I do not consider it a result of Riggs' disease, but a concomitant of the breaking down of tissue from mercury, etc. We are in the habit of teaching our patients that we can save such teeth, that we can cause healthy tissue to grow over dead tissue and expect such live tissue to lie in contact with it when it is not possible.

Dr. Watt: We have been blundering over salivary calculus till Dr. Ingersoll gave it a name. There was a sanguinary calculus weighing thirteen ounces taken from the abdominal muscles. It is only necessary to have a nucleus and it will grow. I am unable to say what caused the calculus, but it is possible that it is due to inflammation, a portion becomes dead and a portion of the blood is dropped. As long as saliva holds free $C O_2$ in solution it holds the various salts in solution, but if the $C O^2$ is not present in sufficient quantities the salts are deposited. Whenever ammonia is present it is apt to unite with the $C O^2$ and a deposit results. The same effect is produced by alkaline mouth washes. Ammonia arises from a general breaking down of tissues, it sometimes comes from the mucous follicles, but more commonly from the breath.

Dr. Ingersoll: When we consider that the blood contains all the ingredients of calculus and that calcareous degenerations are very common in all parts of the body, it does not require a very great stretch of the imagination to believe that this is sanguinary calculus. The ingredients of salivary calculus exist in the blood before they get into the saliva. The only case I saw where there was drainage was the case of one-fourth inch of the apex incrusted with calculus that I mentioned.

Dr. T. L. Buckingham, Philadelphia: It is very easy to build up a theory but it should be founded on facts. Whenever you have a solid dead nucleus, bullets, splinters, etc., you have a deposit on them. $H_2 O_2$ is unstable and when it is decomposed nascent oxygen is liberated which acts directly on the tissue, it is in the form of ozone which is a molecule of three atoms. For several years I have been using a formula of Dr. C. E. Kirk, of Philadelphia. It consists of sulphate of soda and borax ground together. This is inserted into the tooth for bleaching purposes. The borax decomposes the sulphate of soda and liberates sulphurous acid which has quite an affinity for oxygen and thus decomposes the coloring compound, it has the advantage over chlorine of going to a greater depth. It is more permanent and simple.

Dr. W. H. Morgan, Nashville, Tenn., I think that there are two layers of periosteum in the sockets. There is no such thing as perfect success in the treatment of such cases. I think it is absurd to talk of pus secreting surfaces. They can only take from the blood what is in it, and pus does *not* exist in the blood.

Dr. Atkinson said he was sorry that as a body they were getting as crazy as "Atkinsonian" as himself. They were all troubled by an ignorance of the laws of terminology. What was ulceration but the breaking open of an abscess? What was suppuration but an inflammation, and inflammation an oxydation? He blessed the Lord that the ladies wore their hair long, because they retained all their inspiration. He believed in the vis vitæ, and that all power came from God.

THIRD DAY—MORNING.

Dr. J. M. Odell read a paper on diathesis and cachexia and their influence on diseases and pointed out the necessity of a more thorough knowledge of the family history.

Dr. Atkinson: There is a difference of opinion as to heredity and we should take the middle ground.

Dr. Geo. F. Friedrichs: Few, if any, medical men understand the *modus operandi* of the medicines they prescribe, and it is nonsense to talk of the molecular affinity of the medicines for the tissues. In a discussion of this kind no facts are brought forward, and we come to no definite conclusions.

Dr. T. L. Buckingham: We use medicine as we do lubricants in machinery. If we put turpentine on a bearing we soon have friction that rapidly wears out the machine; we do not know how these medicines act, but we know that if we put certain medicines into the machinery we get certain effects. Some act as a whole, some by decomposition. The composition of some substances is nearly like certain articles of food, but like a word, the transposition of whose letters makes an entirely different word.

Dr. Watt: The statement that we do not understand how medicines act is too general. We do not understand how some medicines act, and yet do of others. Knowledge is partial. In the treatment of autumnal fevers with arsenious acid, it is administered to interfere with the cause and the root of the disease and kill the morbid tissues. We expect it to kill the morbid tissues and leave the live ones intact. In an anæmic girl, where there is a lack of red corpuscles, and, as iron will produce red corpuscles, we should administer it in a form that is most assimilable, or we may give iron by hydrogen and direct the patient to sprinkle it on her bread and butter. It is contended that this form of iron is not assimilable, but I have prescribed it and it has produced the desired result.

Dr. Friedrichs: Physicians are supposed to know the cause of disease before they treat it. Now what is the cause of fever?

Dr. Watt: That question was settled some time ago, but few people know that it is settled.

Dr. W. O. Kulp Davenport, Iowa, (to Dr. Watt): Perpaps the reason of the iron having the desired effect, was because of its being sprinkled on bread and butter.

Dr. Odell: I think Dr. Watt made out a clear case that he did not know anything about the action of medicines. Dr. Freidrichs is right. There is always a point beyond which we cannot go, we cannot get at the *how* they operate. Some act by assimilation, others by presence as Bismuth. Dr. Watt simply stated that arsenic cures certain diseases but did not give us a glimmering of its *modus operandi*. It is supposed to act on the nervous system, and by a molecular motion cause the elimination of certain substances.

Dr. Watt: We do know that these substances die under the influence of arsenic, and that they and the arsenic come out together, thereby giving the system a chance to act by dunging it out, as they say in West Pennsylvania. We know as much about some medicines as we know about anything. We know a plow turns a furrow and pulverizes the soil, yet we cannot explain how it is done.

Dr. Odell: About all we know of medicine is at first empirical. Science is simply a classification of empirical knowledge. Some one discovers a result and we go to work to discover how it is produced, but we have never yet found out how this is done except in the case of the oxygenation of the blood.

Dr. Atkinson: We talk of stimulants and tonics; how do they act? The body is made up of molecules; any impact that enters into a molecule and becomes part of it is a tonic, and any impact that accelerates molecular action is a stimulant, every atom has a static and a dynamic side. It is difficult to imagine the creation of atoms; any substance that can act as a molecule will, according to the condition of the molecule, act as a food or poison.

Dr. Friedrichs: Does anyone else believe that?

Prof. Mayer: Dr. Watt says that arsenic kills organisms. In my laboratory I had two bottles, one containing a solution of arsenious acid, and the other arsenite of soda, and the liquid in both bottles *became covered with mold.* I consider arsenic a stimulant of the nervous system.

Dr. E. T Darby: We do not know how arsenic acts on a pulp, opinions differ. Dr. Flagg made some experiments with arsenic; he took $\frac{1}{25}$ of a grain on a piece of cotton and applied it to a pulp and devitalized it, he then applied the same arsenic to another pulp with the same result, and so on until he had devitalized ten pulps; he then applied it to the web of a frog's foot and killed it. The question is, how was it possible to accomplish those results?

Dr. T. L. Buckingham: I think I know something about that frog. We found what we supposed to be arsenic in all parts of it. We do know that a very small quantity of arsenic will have a good deal of effect, but this does not prove that it may not be absorbed. I do not know how it destroys pulps. When arsenic is applied to tumors it attacks the weakest tissue first, which makes a cushion that retards its action. We cannot say why sulphur and oxygen combine. There are laws that regulate them like letters which can be put together but must be put in such shape as to form words. We know nothing about matter, we only know it by its properties, not by its substance.

Dr. Watt: Does not arsenious acid coagulate albumen?

Dr. Buckingham: Yes.

Prof. Mayr: Has anybody ever noticed that arsenic coagulates albumen?

Dr. Buckingham: We know that immersing seeds in a solution of arsenic will prevent their germinating, and after it has been applied to the pulp and that organ is apparently dead, the arsenic may be removed by syringing with water and the pulp be restored to life. It paralyzes, it acts in the same way as cold.

Dr. Geo. R. Thomas, Detroit: Can the arsenic be removed and the pulp be restored to life again?

Dr. Buckingham: There is a mere suspension of vitality.

Dr. W. W. Allport, Chicago: It is difficult to explain why remedies act, we only know they do act. We know not how we live; Dr. Flagg's experiments were not thoroughly understood, he wished to prove that it destroyed vitality, was not due to absorption but it acted as an irritant, and he showed that it did not exist in the pulp save at the point of contact. The irritation of the pulp caused congestion and strangulation at the apex. I have found that when the pulp has not been wounded that it takes the least quantity of arsenic to destroy it, but when it has been wounded it takes a larger quantity; this is due to a loss of blood. In other cases I have introduced a quantity of arsenic and in a few days afterward a portion of the pulp has sloughed off and the rest of that organ remained alive for years.

Dr. I. N. Crouse, Chairman of the committee appointed to draft resolutions in memory of the late Dr. M. S. Dean, of Chicago, reported a paper, which was ordered spread on the memorial page of the transactions of the association. It states that in the sad bereavement they had lost the companionship of one who was original and progressive in thought, though calm and conservative in action, and just and charitable in expressing his convictions, possessing keen perceptions, delicate sensibilities, and refined tastes; he was pure, warm hearted, and sympathetic in nature, genial, humorous, witty, and at times even boyish and exuberant in spirits. With these attributes governing his life he enjoyed to an unusual degree the confidence and affection of his associates. They had lost a scholarly, cultivated, and generous friend, who had filled with honor and great satisfaction every responsible position at their disposal. His brilliant intellectual attainments, earnest, honest, and modest bearing, made him not less dear to their scientific friends abroad than to themselves. The heartfelt sympathies of the association were accorded to the bereaved family.

Dr. W. C. Barrett, Chairman of Section 7, on physiology and etiology, reported the great importance of this new section, and in reference to a suggestion in the President's address the following was read: That the sum of $200 be set apart to be adjudged by a special committee of three members to be appointed by the president of the Association, to the author of the best paper on the etiology of dental caries, the paper to be based upon strictly original investigation, and to be presented to this Association in the report of Section 7. Such committee shall prescribe the conditions upon which essays shall be presented, and in case of two or more papers of equal claim to merit they may in their discretion divide the sum so set apart and award a portion to each essayist. Unless papers of sufficiently original merit be submitted, the committee may decline to award the prize, and hold it over until it has been fairly earned. The competitors for the prize essay need not be members of this Association, but the profession of the world is invited to the consideration of the subject.

Dr. Barrett also read a paper on "The Origin of Nervons Force." It explained the origin of nervous force, he said, and endeavored to prove, that it was a correlation of original force—force as it is in general and in its essence. In that sense it was a continuation or a complement of original forces, such as heat, electricity, and like these, it was derived from the molecular action of chemical affinities.

He mentioned an example of his position which he had given recently at a meeting of a State Dental Association. He had exposed the inside organs of a dog—the heart had been bared to view. Soon the beating of the heart ceased, as though life were extinct. Some friends of his had retired and declared that his experiment was a failure. But he said it was not, and applied a shock of electricity, at the same time infusing the proper amount of heat. The result was that the heart began to beat as regularly as before the operation commenced. The scientific research of the day was for the conservation of nervous force.

(At the conclusion of Dr. Barrett's paper Dr. Buckingham made some remarks, but owing to the noise and confusion they were inaudible. REP.)

THIRD DAY—AFTERNOON.

After deciding to meet at Niagara next year the Association went into an election of officers for the ensuing year with the following result.

Dr. W. H. Goddard, of Louisville, President; Dr. Geo. J. Friedrichs, of New Orleans, First Vice President; Dr. E. T. Darby, of Philadelphia, Pa., Second Vice President; Dr. A. W. Harlan, of Chicago, Corresponding Secretary; Dr. Geo. H. Cushing, of Chicago, Recording Secretary; Dr. Geo. W. Keely, of Xenia, Ohio, Treasurer; Executive Committee, Dr. F. M. Odell, T. T. Moore, S. G. Perry, C. N. Pierce, W. H. Morgan, F. H. Rehwinkel, Dr. J. N. Crouse, Dr. A. M. Dudley, Dr. G. H. Field.

FOURTH DAY—MORNING.

During the morning session the matter of appropriating a certain amount for best original essay on Dental Caries was considered, and it was decided to appropriate $200 for that purpose. Dr. Buckingham, of Philadelphia, explained the substance of a paper on artificial dentistry. He referred to the importance of the use of celluloid in the manufacture of teeth. Celluloid, by the application of heat from 290° to 310, well regulated by a thermometer, might be put into such a condition as to be easily pliant to any form. He deprecated the fact that so many dentists were careless in the manufacture of teeth. They made a set of teeth, for instance, for an old man, as though he was scarcely twenty-one—thus the naturalness of teeth was not at all preserved. Celluloid would not only be plastic, but would receive any color. Dr. Dorrance, of Ann Arbor, Mich., read a paper on the ill results of vegetable bases. He also exhibited a new blowpipe, and specified a new compound for solder made of silver, zinc, and copper. Upon motion of Dr. Barrett, it was resolved to declare the sense of the meeting to be that the new blowpipe be manufactured by the inventor for the benefit of dentists.

In the afternoon President Elect Goddard was installed as the presiding officer. He made a strong address in taking the chair, which was loudly applauded. He closed it by saying: "And I assume the gavel feeling a consciousness of success." Some time was spent by several members expressing their sentiments in regard to the deaths of Dr. Howxhurst and Dr. Dean.

Dr. J. Taft read a paper on Dental Literature. The United States, the Doctor said, had a larger number of dental journals than the world besides. The dental journals of the United States contain each month 425 pages, or 5,109 per year. The British journals contained 1,692 pages per year, the German 1,984, the Italian and Spanish 164, the French 948, making in all, 4,824 pages. According to this estimate the periodical literature of the United States exceeded that of all other countries by 176 pages.

Dr. J. W. Crouse read a paper on Dental Education. He took the position that, on account of the easy award of diplomas, college education had been deteriorated. The paper provoked considerable discussion. Dr. Atkinson, of New York, said the time of graduation had nothing to do with the proficiency of a student. Whether a man went to college one, two, three, or even ten years, made little difference as to his knowledge unless in that time he had acquired it. Dental education had grown, but, not like ripe fruit, it had become abundant, but its fruits were green. Only by honesty would the dental profession attain to a decent standard of education. Dr. Pierce insisted on the importance of a State Board of Examiners being appointed, taking the duty of examination entirely out of the hands of the faculty. Dr. Barret, of Buffalo, favored this view, but qualified his position by saying that in the present condition of things it was very important to require a course of a certain number of years from the colleges, otherwise the abuse of granting diplomas would be on the increase. Dr. J. Taft said it was easy enough to describe an evil, but to apply a suitable remedy was a difficult matter. Dr. Morgan, of Nashville, said it was not true that responsible colleges were wont to grant diplomas where they were not deserved. He did not believe in a State Board of Examiners, because a professor in the college, who taught the student every day, was the only competent man to examine him. He was diametrically opposed to a union of medical and dental colleges. Dental students ought to be educated in dental colleges by dental professors. Dr. Allport, of Chicago, averred that it was useless to build up dental science on any other foundation than that of medicine. The greatest quacks were the graduates of dental colleges. Dr. Hunter took the position that a good dentist must first be acquired in a regular medical college. Drs. Barret, Chas. Butler, Field were appointed a committee to make arrangements for the accomodation of the members at the next place of meeting at Niagara Falls, to act in concert with the first division of the Executive Committe. Dr. Darby, of Pennsylvania, and Dr. Harlan, of Chicago, were appointed the commitee on publication.

Selections.

MEDICINE.

Researches on Convallaria Maialis and its Effect on the Heart.—At the meeting of the Académie de Médicine, Paris, July 4, 1882, M. Germain Sée read an exhaustive paper of the above title.

The conclusions arrived at were based primarily on experiments on both cold and warm blooded animals, and finally the remedy was tried in seventeen cases of various forms of cardiac disease in man. The following conclusions, which we copy from the *Bulletin de l'Académie de Médicine*, were arrived at:

1st. The convallaria maialis, or lily of the valley, is a powerful cardiac remedy.

2d. In the form of the aqueous extract of the whole plant, given in the dose of from gr. 15 to 20 daily, the maialis produces constant and favorable effects on the heart, vessels and the respiration, slowing the beats of the heart, establishing the normal rythm, increasing the force of the heart and the arterial pressure. The respiration becomes deeper and the sense of suffocation and the desire for air less troublesome and painful.

3d. The most powerful, constant and useful effect is its diuretic action which renders it of great use in dropsies of cardiac origin.

4th. The therapeutic uses may be thus formulated:

(*a*) In palpitation due to an exhaustion of the vagus nerve.

(*b*) In simple want of ryhthm, with or without hypertrophy of the heart, and with or without lesions of the orifices or valves of the heart.

(*c*) In mitral stenosis, especially when accompanied by a want of compensatory force of the left auricle and right ventricle. Under the use of the drug the contractile power decidedly increases, as is shown by sphygmographic tracings.

(*d*) In insufficiency of the mitral valves the good effects are particularly well marked, when there is a passive congestion of the lungs and as a result more or less dyspnœa.

(*e*) In aortic regurgitation the good effects show themselves in the pulse and the increased ease of respiration.

When the left ventricle does not give evidence of compensatory hypertrophy the maialis is especially indicated for it gives strength and energy.

(*f*) In dilatations of the heart, with or without hypertrophy, with or without fatty degeneration, with or without sclerosis of the muscular tissue, the drug is of the greatest value.

(*g*) In all cardiac affections giving rise to dropsy and anasarca the remedy has prompt and certain good effect.

(*h*) It has less effect on the dyspnœa which accompanies diseases of the heart.

5. There are no contra-indications, for the remedy is applicable to all the affections of the heart. In addition to that it has no bad effect on the cerebro-spinal system, nor on the digestive organs. Moreover it has no cumulative effect nor unpleasant after results.

6. For these reasons maialis is superior to digitalis, which we are often obliged to give up, or at least reduce the dose of, on account of the vomiting, loss of appetite, digestive disorders, cerebral excitement and dilatation of the pupil, which it so often produces after a more or less prolonged use. Digitalis often brings about a weakness of the heart and an increase in the number of the contractions, and, in short, often has directly opposite effects to those desired.

7. To combat cardiac dyspnœa maialis is inferior to morphia and more particularly to the preparations of iodine.

The combination of maialis with iodide of potassium constitutes a most valuable means of combating cardiac asthma.

8. Finally, in diseases of the heart associated with dropsy, maialis surpasses all other drugs, even when it is not associated with other diuretics.

NOTE ON THE ANTISEPTIC TREATMENT OF PHTHISIS.—Since the delivery of my lecture my attention has been directed to some very recent reports, published in Germany, bearing on the antiseptic treatment of phthisis. Dr. Fränkel (*Centralblatt*, June 10th) has been making experimental injections of antiseptics into the pulmonary tissues of animals—such as carbolic acid, boracic acid, iodoform, tartrate of alumina, etc.

These injections were not attended with any constitutional disturbance; and the *post mortem* examinations showed the existence of extravasations and simple inflammatory changes in the lungs; and, in later stages, the formation of cicatricial tissue. On the strength of these results, he proposes that similar injections should be made into the foci of disease and their neighbhood, with the view of modifying the morbid process, and of limiting its extension by cicatricial barriers.

In a patient with fœtid expectoration, he administered six injections, each of fifty minims of a five per cent. solution of carbolic acid. It excited no reaction and no cough, but had no effect on the expectoration. I mention these experiments without, for the present, offering any opinion as to their value, merely to show the activity with which the subject is being investigated in Germany.

It will also, doubtless, be of interest to hear that Professor Oertel, of Munich, in a volume he has just published on the *Therapeutics of the Organs of Respiration*, devotes about 350 pages to the subject of "Inhalations;" in which he speaks highly of the use of a five per cent. solution of benzoite of soda, atomized—*i. e.*, inhaled in the form of fine spray. He has observed a very cleansing effect to follow its use in the ulcerative lesions of laryngeal phthisis; and he infers from this, that a similar favorable action may be exercised on the lesions of more deeply seated parts; on the bronchial ulcerations and softenings, and on the walls of cavities. The expectoration is facilitated—increased at first, and subsequently diminished. Mycotic processes and decomposition of the secretions are arrested, and the absorption of secretions is thus favorably modified, and is less likely to be pyogenic or specifically infective. He also points to the importance of thorough cleansing of the mouth and fauces; the appetite is thereby improved, and the stomach is spared the infliction of decomposing oval secretions. The swallowing of a certain amount of the solution he considers of great value, as he believes it operates in diminishing the fever. He duly discredits the marvelous results claimed for this plan of treatment by Rokitansky; but sees no reason to deny the correction of Shüller's impressions, as to the results of his experiments on animals, performed under conditions very different from those obtaining in the subjects of advanced phthisis. He, moreover, expresses a confident belief that, by this and other antiseptic modes of inhalation, very good effects will be attainable.—*British Medical Journal.*

WASHING OF THE STOMACH.—This has been employed for some years with a certain success in several affections of this organ. The mode of operation, with the indications and results, are comparatively well known. However, up to the present the operation has been mostly confined to hospital practice, as medical men in private practice hesitate to employ it, believing that it is rather too delicate to undertake the responsibility of it. M. Faucher has invented an instrument which makes the operation just as easy as that of washing out the bladder. The instrument consists of a tube of red caoutchouc, called English caoutchouc, very smooth and supple, of about four feet in length, and having a diameter of ten millimetres. At the free extremity the the tube is pierced by two holes or eyes, while the other end is adapted to a funnel of glass or metal. To perform the operation (*lavage*) the patient introduces as far back as possible the free end of the tube, which is previously moistened, until the pharynx is reached, when by movements of deglutition it is carried down the œsophagus until it reaches the stomach. A mark on the tube placed about eighteen inches from its extremity announces its arrival. As soon as the tube is introduced the patient fills the funnel and raises it above his head. The liquid descends, and when the vessel is almost empty it is lowered rapidly on a level with the stomach, and all the liquid returns, mixed with the residue of digestion. After several applications the patients learn to handle the instrument with the greatest facility, and without experiencing any nausea. The liquid employed usually is water with a little bicarbonate of soda; antiseptic agents, however, might be used, such as chloral, borax, etc. The temperature of the liquid should be cold. Disease of the mucous membrane of the stomach, catarrh, primitive or secondary, simple ulcer, alcoholic gastritis, etc., furnish indications for the operation. Cancer has been palliated by it, and in cases of poisoning it has been valuable.—*Medical Press.*

THE NERVE-ELEMENT IN WHOOPING-COUGH.—Of late years the profession has bestowed very little, if any, serious scientific attention on some of the commonest of common maladies. Whooping-cough is conspicuously among the neglected ills to which, notwithstanding the forgetfulness of the multitude of earnest clinical investigators, flesh is still heir. Many years ago the nerve-element in this troublesome and too often evil-working if not in itself dangerous, affection, engaged much consideration, and treatment was specially directed to its relief. It would be well if the investigation of this feature of the etiology of the affection could be resumed. The fact that pertussis belongs to the class of maladies which are communicable and "catching" does not take it out of the range of probability that the specific action of a morbific poison of the nervous-centres may be the efficient cause of the disease. Although the fact that the affection occurs rarely more than once in the life of any individual may seem to point more directly to the fertilizing of latent germs in the organism than to any special excitation of the nerve-centres, we do not, as yet, know enough of the *modus operandi* of morbific influences—"germs," or poisons, as we call them—in the blood and tissues to define the production of morbid phenomena. In any, case, such relief is frequently obtained, even in the earliest stages of whooping-cough, from mild periodic counter-irritation over the whole length of the spinal column by a mustard-poultice, which merely reddens the skin without vesication, that it would be well worth while to study this method closely from the therapeutic as well as the clinical stand-point. It certainly does good; but how? In cases where the mustard-poultice, applied for six or eight minutes—not longer—over the whole length of the spine immediately before putting the child to bed, every night, for a week, or, in seriously spasmodic cases, a fortnight, does not procure a permanent amelioration of the cough, the effect of this remedy is enhanced by sponging the spine with iced water quickly each successive morning. In cases where the paroxysms of cough seemed to be repeated and to continue from sheer exhaustion of the nerve-centres, coffee, administered as a drink, will often stimulate the energy of the centres so as to put an end to the malady. These are practical points which require theoretical explanation.—*The Lancet*, January 28, 1882.

TREATMENT OF HEREDITARY INFANTILE SYPHILIS.—M. Archambault, of the Hospital des Enfants Malades, prefers in the treatment of hereditary infantile syphilis the corrosive sublimate to calomel or hydrargyrum c. creta. He administers the twenty-fifth of a grain in the twenty-four hours in milk or water. By degrees the dose is brought up to one-tenth of a grain, which represents the maximum. As salivation was not found in children, the mercury should be suspended when the mucous patches commence to disappear, the ulcers to fill up, etc. It was said that the mercurial treatment provoked diarrhœa, but such was not his experience. Where the syphilis was slight, frictions with the mercurial ointment often suffice. As to baths of sublimate, he had used them with good effect, especially against the cutaneous manifestations of the disease. The dose would be from thirty to forty grains for each bath, and if a metallic bath be used, half an ounce of hydrochlorite of ammonia should be added to prevent the decomposition of the mercury in the presence of the metal.—*Medical Press.*

SURGERY.

TEMPERMENT, IDIOSYNCRASY, AND DIATHESIS IN RELATION TO SURGICAL DISEASES.—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F. R. C. S. (Continued from our last issue.)

LECTURE II.—(Concluded)—I must hasten to other departments of our subject. As surgeons we have to encounter the results of functional idiosyncrasy chiefly in reference to drugs and the specific fevers. The department of diet we ought perhaps to leave to physicians, yet it is impossible that we should wholly do so. For the patients who consult us about other maladies will often describe to us symptoms which we should wholly misinterpret were we not familiar with what is possible in reference to diet idiosyncrasy. A few years ago it fell to my lot to become much interested in the subject of idiosyncrasy as regards eggs. Several patients consulted me within a short period, who, among other symptoms, described a liability to attacks of violent vomiting, or of a sense of sinking and abdominal distress which were to them inexplicable. In more than one of these the reason of my being consulted was that the attacks were attended by temporary defects in sight. In one instance the patient was an artist, who declared that frequently he was quite unable for several hours at a time to see to paint. His defect seemed to be a temporary suspension of the power of accommodation. It always affected both eyes, and was always attended by a sense of heat at the stomach and abdominal distress. I found that these attacks always occurred within an hour or two of breakfast, on entering into detail became convinced that they were due to eating eggs, and on telling my patient my conclusion he told me at once he had always suspected it, yet being very fond of them, he had indulged in one once in a month or so. He was quite cured by abstinence. In several of the cases to which I refer the symptoms produced were far more violent than in this one, and had been so severe on some occasions as to lead to the suspicion that poison had been given. In some cases susceptibility as regards eggs is observed in reference to all eggs, and in all conditions as regards freshness, and in reference also to the very smallest quantity, so that a little egg taken in a pudding, a sauce, or a soup may produce the most definite disagreement. In some the susceptibility is invariable, but in others it may be much diminished, or entirely removed when its subject is in unusual good health, or taking much exercise in the open air. In many instances the liability to egg poisoning is manifested only in respect to the eggs of certain birds, or under certain conditions as regards cookery or keeping. Eggs and fish, the two articles of diet respecting which most is to be said as regards peculiar susceptibilities, are, it is to be remembered, the two which are most easily capable of peculiar changes from over-keeping. A fish which is quite wholesome when absolutely fresh may become exceedingly otherwise if kept only for a few hours after death, a fact with which those who live in hot countries are abundantly familiar. The same is true, though to a less extent, in respect to eggs. Eggs are perhaps as much influenced by methods of cooking as by mere keeping, and I may remark in passing that the examples of the most violent egg poisoning which I have known have occurred to individuals who, having manifested the idiosyncrasy to some extent at home, had incautiously partaken of articles containing eggs whilst traveling abroad. Among various other articles of diet respecting which peculiar susceptibilities are frequently shown, we have honey, tea, coffee, various fruits and vegetables, and various forms of alcoholic beverages. Cases of what deserve to be known as *tea poisoning* are probably by no means infrequent, but the medical adviser who, having become cognizant of some of these, should straightway proceed to discourage the use of this beverage by all, would be making a very wide departure alike from the laws of clinical induction and common sense. We have to deal with idiosyncrasy, and must apply our knowledge under the limitations of its laws. It must be remembered, however, as I have already asserted, that idiosycrasy by no means declines to enter into partnership with other causes of functional disturbance more easy to be understood. The varying state of the patient's health at different periods of age, and varying habits as regards diet at different times, may conceal or bring into unusual prominence an idiosyncrasy which is a permanent condition. In many patients susceptibility to the influence of tea is much increased by taking certain wines, notably champagne, and is diminished by the malt liquors and the red wines. As a rough rule, all idiosyncrasies become aggravated when the tone of the system is low, and many of them pass into almost absolute abeyance under conditions of unusual vigor and health. Idiosyncrasy in respect to tobacco displays itself in two forms, and one of them is of unusual interest, since it exemplifies a class of idiosyncrasies which are very apt to be misunderstood. I refer to those in which the individual susceptibility is not displayed immediately on the incidence of the cooking influence, but waits, it may be, for a long time, and until possibly other conditional causes come to its assistance. A little thought will probably supply most of us with examples of this class of idiosyncrasies, and they are very important in practice. A man who has drunk tea all his life, and largely, may rather suddenly find that it is almost poisonous to him, and may then recollect that one or more of his relations have never from childhood been able to take it. It is the same with eggs, fish and certain kinds of wine, and so also with various drugs, and in all these instances it is, I believe, quite possible that the display of the idiosycratic susceptibility may be only temporary. In some instances we may discover in some change in the mode of life or habits of diet, or in advancing age, and possibly some visceral degeneration, an explanation of the newly-discovered peculiarity, but in other cases nothing can be found. Tobacco, I think, stands curiously alone amongst the articles in human use in that it almost invariably in the first instance acts as a powerful poison, and tolerance can be acquired quickly and certainly by almost every one. There are, however, great differences in the degree of susceptibility, and in the ease with which habituation is obtained. Many never do obtain it, and although this in most cases may be merely the result of want of perseverence, there are a certain number in which it would appear that the primary idiosyncrasy is insuperable. Many persons who have acquired tolerance of one kind remain susceptible to others, and after having been habitual smokers for years, may be made very ill by inadvertently using an unaccustomed kind. Many smokers, I believe, recognize periods during which the pipe disagrees with them, and they are obliged for a time to abandon it, and very curious symptoms, such as absolute suspension of the sexual appetite, etc., are sometimes with confidence alleged as consequences of its excessive use. But the cases which are of most interest in connection with our present subject are those in which without any undue excess and in persons who have been for a long time habituated, tobacco suddenly begins to act as a poison without causing any distaste or any conspicuous derangement. These patients are often quite unaware of what it is which is hurting them. They lose appetite and become nervous, and amongst the most conspicuous symptoms is a very marked failure of sight. This failure differs from all other forms of amaurosis amblyopia. It always affects simultaneously and equally both eyes; it begins very insidiously, and having no other symptoms in diminution in acuity of vision, is often scarcely recognized by its subject until at the end of six weeks or two months he finds that he can only read the very largest types. When at its height the optic disc is usually red and a little hazy, and at a later stage it becomes decidedly pale. If the patient will for a while leave off smoking, he will regain his sight almost to a certainty, but, however perfect may be his apparent recovery, the disc is almost always left pale. He may resume the habit after awhile without much risk of relapse if he keeps to strict moderation, and in some cases recovery takes place, although the abstinence never has been complete.

Such are some of the principal facts respecting tobacco amaurosis. I have felt justified in stating them in this positive manner because I published in a series of reports some years ago in the *Ophthalmic Journal* and the "Medico-Chirurgical Society's Transactions" very full details respecting them. That the symptoms in question are really due to tobacco I cannot feel the slightest doubt. I have seen no cases quite parallel to them either in women or in non-smoking men. If in these two classes of patients similar symptoms should be presented, which is very rare, I believe that they always progress without interruptions to almost total blindness. Tobacco amaurosis rarely happens to novices in smoking, and rarely except to those who are liberal in the indulgence. Half an ounce of shag per day has been the usual allowance in the cases which I have collected. In support of my interpretation of the facts I may briefly advert to the history of our knowledge of them. Long before the ophthalmoscope diagnosis was made out, Dr. Mackenzie, of Glasgow, and several French observers, had recognized the malady, and alluding to the difficulty met with in persuading its subjects to abandon the habit, Dr. Mackenzie had used the expression, "There are many who would rather smoke than see." Mr. Wordsworth, at Moorfields, was, I believe, one of the first who studied the ophthalmoscope diagnosis, and he held that the conditions displayed by the disc were pathognomic. It was to his teaching that I was chiefly indebted for my interest in the subject. I must hasten to the narration of certain facts which show that this disease is really a matter of idiosyncrasy, and that we ought, by recognizing the fact, to explain the circumstance that such a very small proportion of smokers ever suffer from it. This immunity of the greater number and the picking out of one here and there has been a great stumbling block to many in the way of accepting this doctrine. I cannot think that it ought to have been so, if due allowance be made for the influence of idiosyncrasy. The facts to which I first alluded as supporting the belief that this influence is really at work are the following: Not very unfrequently the subject of tobacco amaurosis in one who was well aware of his susceptibility, who had experienced unusual difficulty in learning to smoke, and who had never been able to change with impunity from one kind of tobacco to another. Some years ago a young man came under my care who was a smoker, and who had smoker's amaurosis. Subsequently his mother, who did not smoke, came to me for an almost similar state of things, and I then learned that a nephew of hers, a smoker, had suffered just like his cousin, and had been under the care of my colleague, Mr. Hulke. I applied to Mr. Hulke for his diagnosis, and he kindly sent me a copy of his notes, showing that he had considered it a tobacco case. Here, then, we have three near relations presenting the same form of disease. In the woman, who did not smoke, the disease did not show itself until twenty years later than in the two young men who did, and in them, on abstinence, the disease was arrested, whilst in her it increased. Can we doubt that we have here an instance of family proclivity? I have yet to mention a stronger case in proof that special susceptibility may exist in a family—a hard-worked Welsh clergyman, who had been accustomed to irregular meals, and had consumed in large quantities a cheap, strong tobacco. He became nervous, and almost blind, and he recovered on giving up smoking. He told me subsequently that two of his brothers, farmers, had experienced precisely similar symptoms, and apparently in connection with the same cause. I did not see either of them, but I believe both were, like himself, almost wholly cured by abstinence. These two groups of cases, in each of which more than one member of the same family suffered from the same cause bear to my mind very strong evidence in favor of the opinion that it is under the laws of idiosncrasy that we must seek the explanation of chronic blood-poisoning. It occurs to those in whom the nervous system, possibly the nervous tissue, has susceptibilities which are not shared alike by other members of the community. I have alluded to the fact that this susceptibility is not usually simple or immediate. as in the case of arsenic; it is almost always in those who have been long accustomed to smoking that these nerve phenomena occur, and they are probably indicative of a state approaching to saturation. If it be asked what are the other contributory causes which assist in producing the outbreak, I should be inclined to suggest that very varied influences which reduce tone may help over-work and anxiety, may assist, and so probably may the sudden loss of outdoor exercise. I do not think that the use of stimulants is often a contributory cause, at any rate, not unless to such excess as to interfere with appetite for food. Many facts which have come under my notice suggest that total abstainers from alcoholic beverages are, if they smoke freely, in much more danger of chronic tobacco-poisoning than those who drink them.

Respecting idiosyncrasies as regards arsenic, I have to remark that they are not nearly so marked nor so common as those respecting some other drugs. I have met with exceedingly few cases in which small doses disagreed. It is exceptional indeed that a patient complains of inconvenience at the outset of a course. Usually, symptoms occur after the drug has been to some extent pushed, and they for the most part necessitate its discontinuence or reduction. I am alluding now to the well-known symptoms of conjunctival irritation pain in the stomach and bowels. Respecting these, I think tolerance is never obtained, and if the same doses are given. In English practice, individual susceptibility to arsenic does not seem to vary much. Most persons, as I have said, can take it, and very few can take more than a certain dose. I have never myself seen a case in which it could be pushed beyond a certain point with definite disagreement. The most remarkable fact in reference to idiosyncrasies is its occasional production of the form of neuritis which we know as herpes zoster. It is now more than ten years since I published a series of cases illustrating the occurrence of herpes zoster in patients who were taking arsenic, and since then I have seen so many other examples of it that I cannot entertain the slightest doubt as to the direct connection between the two. The herpes eruption may occur in the forehead, face, or trunk, and it is wholly indistinguishable from herpes in these regions when not due to arsenic. It seems the same cause that disappears after its usual duration, whether the arsenic be continued or not. The patient does not, as a rule, show any constitutional symptoms of arsenic intolerance, and it is almost invariably the case that he has taken the drug for some weeks before the symptoms appear. The advent may now and then be delayed until a week or ten days after the course has been suspended. A precisely similar interval is sometimes seen in cases of sympathetic ophthalmitis, in which affection probably, also, a form of neuritis—the inflammation of the second eye—may develop a week or ten days after the entire removal, by excision, of its cause. These facts would suggest that the neuritis is in each instance slow in its stages, and that, having been once initiated its local processes cannot be stopped. The number of those who show arsenical herpes is very small in proportion to those who escape, and if it is to occur at all, I think it always happens during a first course. I have never seen it in a patient who had been accustomed to the drug for a long time. Thus, its occurrence must certainly rank as the result of an idiosyncrasy; and this suggestion opens the way for the further one—that we ought, perhaps, always to regard herpes zoster as, in the main, an indication of personal peculiarity. It certainly does not appear that all persons are equally liable to it, since it happens to but very few, and is never associated with any special form of ill-health. Excepting the single fact, just alluded to, of its occasional production by arsenic, we know of no causes which can evoke it. I have seen arsenic produce herpes in two different regions at the same time, but I do not remember to have ever witnessed a second attack in the same individual. In reference to this however, it is but fair to add that I have usually carefully avoided this drug after an attack of shingles, since the latter is very often a very serious trouble. A few—a very few—persons are liable to the occurrence of an eruption of herpetic vesicles over and over again in the same part of the skin, and, as is well known, examples of recurring herpes on mucous membrane are common, as, for instance, on the lips and genitals. Sometimes recurrences take place once a month, or even oftener, the eruptions always passing through the usual stages, and undergoing a speedy and spontaneous cure. There is never any peculiarity of health to be made out in explanation of these cases, and they must, I suppose, rank as idiosyncrasies. Homœopathists are welcome to make what use they can of the fact that arsenic will often cure these cases and prevent the recurrence. I have repeatedly seen herpes of this kind remain in abeyance for many months whilst the patient was taking arsenic, and show itself again when the drug was suspended. I have seen one case which to some extent offers an exception to some of the statements which I have just made, inasmuch as the patient was liable repeatedly to an eruption from arsenic. The eruption always came soon after beginning the remedy, and he was well accustomed to its use. The patient is a gentleman now near to sixty, who has suffered psoriasis most of his life, and for whom in early life Sir Benjamin Brodie prescribed arsenic. He has often taken it since, and its usual effect is as stated. On one occasion he took it in order to show me the character of the eruption produced. It had been called eczema, and, although it certainly had the local features of an ecthymatous eczema, yet it occurred, like herpes unsymmetrically on one arm in large pustules, which disappeared spontaneously after a few days.—*Medical Press and Circular.*

Excision of the Tongue, Followed by Tracheotomy and Subsequent Gastrostomy; Recovery. (Under the care of Mr. Walter Whitehead, Manchester Royal Infirmary.)—Samuel S., aged 40, a cabinet-maker, was admitted on January 7th, 1882. No feature in his previous or family history could be elicited which had any bearing on the disease for which he sought relief. He stated that nine months previously he first noticed a pricking sensation in the neighborhood of the right tonsil, and that shortly afterwards he experienced pain on the same side of the head, as though he had a combined attack of face- and ear-ache. He had a tooth, which he believed to be the cause of his suffering, drawn, without any benefit. Shortly after this, he discovered a small hard nodule situated on the middle third of the right side of the tongue, corresponding to the situation of the tooth which had been extracted.

On examining the mouth, after admission, the right posterior half of the tongue was found infiltrated with a hard mass extending down into the floor of the mouth, and upwards on to the dorsum. The surface of the tongue was not ulcerated, but one side was bound down to the floor of the mouth. The fauces, from the soft palate to behind the posterior pillars, were deeply excavated, the edges of the sore being hard, ragged, and infiltrated. There was no perceptible glandular enlargement. He complained of lancinating pains in the right external auditory meatus, extending to the right side of his head. A significant depressed cicatrix was noticed over the sternum, and also a scar, with a serpiginous outline, of the size of a florin, in the third intercostal space, suggestive of syphilitic origin—a suspicion, however, not substantiated by any other evidence. The voice was not affected, and he could swallow without much difficulty. He derived great relief from taking doses of Battey's solution at bedtime. From January 17th to February 16th, he was treated as an out-patient, his condition being then regarded as beyond surgical treatment. He was again admitted, however, in consequence of his increased sufferings, and his irresistible pleadings that something might be done to relieve his intolerable condition. On February 18th, the entire tongue was excised close to the base with scissors, by the method advocated by Mr. Whitehead. During the operation, the lingual arteries spurted for a moment, but were easily secured and twisted. It was remarked that, during the administration of chloroform, respiration was interrupted whenever the tongue was drawn towards the left side; and that air entered the lungs more freely when the tongue was dragged well to the right. This was explained by the right side of the pharynx being more completely blocked by the growth than the left side, so that, when the tongue was pulled to the left, it entirely obliterated the remainder of the pharyngeal aperture. This obstruction was so marked, that it suggested the possibility of imminent suffocation should any œdema, extension of the morbid growth, or inflammatory thickening, follow the operation. Consequently, on the following day, tracheotomy was performed about one inch below the cricoid cartilage. A silver tube was worn for the first few days, after which, on February 25th, an India-rubber tube was substituted. The patient expressed himself relieved, slept well the night after the operation, and did not complain of pain the morning following. He was fed entirely for the first four days by enemata, each enema consisting of four ounces of beef jelly, and one egg, administered every four hours. His bed was surrounded by a tracheotomy-tent, and steam was kept going night and day until February 27th.

March 8th. The first stage of the operation of gastrostomy was performed, chloroform being administered through the tracheal tube. The operation consisted in making an oblique incision two and a half inches long, parallel to the left costal margin, commencing opposite to the ninth rib. The various structures were divided down to the peritoneum, which was opened. The stomach was easily brought out of the wound and attached to the margin of the skin by about a dozen carbolized sutures; the stitches being passed only through the serous and part of the muscular coat of the stomach. This stage of the operation was conducted under strict antiseptic precautions. The patient was again fed by enemata, and no other food was given for five days. Ice, however, was permitted, and freely indulged in by the patient. No gastric inconvenience whatever resulted from the operation, and the wound was left undisturbed for three days. The first time the wound was dressed, the exposed surface of the stomach was found to be covered by a coating of lymph; and the edges of the wound looking healthy. On the fourth day, the temperature had risen to 104°, but without the patient complaining of any special inconvenience beyond a troublesome cough, which, together with the elevation of temperature, was evidently caused by a badly fitting tracheotomy-tube, that, for some reason, had partially collapsed. After this had been changed for a more suitable one, the coughing speedily subsided, and the temperature became normal. When the wound was dressed on the fifth day, it looked very clean. Feeding by enemata was continued for twelve days, although small quantities of milk were allowed to be swallowed from the fifth day.

On March 19th the stomach was opened by the introduction, in a direction obliquely upwards, of a trocar about the size of a No. 3 catheter. After withdrawing the trocar and leaving the canula, a No. 2 gum elastic English catheter was introduced through the canula into the stomach, and the canula was withdrawn, leaving the catheter in the wound. The catheter was retained in the wound, but the gastric fistula was not utilised for feeding purposes until April 3rd, twenty-six days after the first stage of gastrostomy. After this, the patient was fed regularly by a simple siphon, constructed out of about three feet of India-rubber tubing, with a small bone nozzle at one end and a two ounce glass funnel inserted into the other. The man very soon acquired sufficient dexterity to introduce the nozzle through the gastric fistula himself, and by elevation of the funnel ample pressure was obtained, and fluid nourishments easily introduced into the stomach. The smallness of the opening into the stomach, and the direction of the fistula, which was purposely made oblique, afforded a valve-like guard to prevent the return of the return of the food after it had been introduced into the stomach—an inconvenience which not unfrequently occurs in cases of gastrostomy, when a large and direct opening has been made into the stomach.

REMARKS.—The considerations which suggested this triple operation, and which appeared to justify the course taken, were the following. The patient's sole prospect, when readmitted on February 15th, was that of a speedy death, either by suffocation, starvation or exhaustion from the severe and continuous pain. The base of the tongue was extensively diseased, and the pharynx was becoming rapidly blocked by epitheliomatous growth. The possibility of removing the whole of the disease was out of the question; and the only prospect of benefiting the man appeared to be by the establishment of a communication with the alimentary canal and with the lungs in the rear of the growth, an endeavor to stem the tide of the disease, and the removal of those combined sources of irritation which in all such cases tend to increase the activity of malignant growths. No other organ in the body than the tongue affords more conclusive evidence of the doctrine that local irritation precedes and intensifies heterologous growths. Epithelioma of the tongue, as is well known, usually commences from the irritation caused by the sharp edge of a tooth, the frequent contact of a pipe, or the acrid contents of consumed tobacco; and the progress of the disease is undoubtedly accelerated by the movements of the tongue, and the passage of food over the unhealthy surface.

The application of a line of surgical treatment calculated to combat these several adverse influences was carried out with the following results. 1. Excision of the tongue secured, so far as the movements of the tongue were concerned, physiological rest, and, thus, the removal of one cause of suffering and one source of irritation. Patients with cancer of the tongue are unanimous in attributing the pain they suffer principally to the movements of the tongue, and state that, when the organ is at perfect rest, the pain rapidly subsides. 2. Tracheotomy mitigated the disturbing influences of respiration. and averted the apprehended danger from suffocation. 3. Gastrotomy supplied a means of diverting the food-traffic; and, whilst removing another source of irritation, it afforded an assurance against compulsory starvation. The removal of the tongue relieved all the patient's sufferings; and so complete was the relief, that he has never had occasion to take a single sedative since the operation to the present time. The fact that the patient gradually gained in weight nearly a stone will be accepted as a proof that the man's general health did not suffer by the means adopted for his benefit. It is almost unnecessary to state that the growth continued to gain ground; but nothing could be more obvious than the retarded speed observed after the operation, compared with its previous rapid progress. Notwithstanding the loss of his tongue, the obstruction in the pharynx, and the opening in the trachea, the patient can articulate with remarkable distinctness, and can make all his wishes known without the use of signs or writing. The patient was present at a meeting of the Manchester Medical Society in April, and was shown in Blackpool to the members of the Lancashire and Cheshire Branch of the British Medical Association on May 17th, and remains to all appearances in precisely the same condition of health at the present date, July 17th. The sequel remains to be recorded; but in the meantime there exists the written testimony of the patient in grateful acknowledgment of the relief he has derived from the operation.—*British Medical Journal.*

Inter-cricothyroid Laryngotomy over Tracheotomy.—At the Société de Chirurgie a discussion arose on the advantages of inter-cricothyroid laryngotomy over tracheotomy. The discussion originated in a communication by M. Richelot relative to this operation, which he practiced on a man who presented a vast epithelioma of the floor of the mouth, and insisted on the facility of the operation as that of tracheotomy. According to him the dimensions of the cricothyroid space are perfectly sufficient to introduce the canula, which, however, should be of small dimensions, for a large tube would be difficult to introduce, and further, might burst the cricoid cartilage. M. Ficaise, who took up the defence of this method, said that he had performed laryngotomy on a man of sixty-seven years of age for cancer of the larynx, and it succeeded very well. M. Chauvel preferred tracheotomy, for the tube must be necessarily too small. M. Desprès declared himself an adversary of the operation in question, for the efforts of deglutition caused the tube to rub constantly against the walls of the larynx, and thus inconvenienced the patient rather seriously. M. Verauil, on the contrary, considered laryngotomy an excellent operation, easy to perform, and deprived of those dangers which attended tracheotomy. In some cases it is even the only one possible. He had actually a patient in his service on whom he performed this operation for epithelioma of the pharynx, and having introduced the tube of Krishaber, the man speaks and eats well. Another member declared that from experiments on the dead body he found that laryngotomy was much easier to do than tracheotomy. The discussion ended with M. Launelongue, who maintained that tracheotomy was ordinarily a difficult operation, and often dangerous, and he certainly preferred to replace it by laryngotomy.—*Medical Press.*

Oxygenated Water as a Dressing for Wounds.—In *La Tribune Médicale*, July 16, 1882, MM. Pean and Baldy give the results of experiments made in the Hospital Saint Louis on the use of oxygenated water as a surgical dressing. It was applied to various kinds of wounds, ulcers, etc., and the authors end their paper by drawing the following conclusions.

1. Oxygenated water, that is to say, water containing from two to six times its volume of oxygen, may advantageously take the place of alcohol or carbolic acid as a surgical dressing.

2. It may be employed as a dressing for wounds or ulcers, may be used as an injection in fistulæ, and may be given internally in cases of uræmia, septicæmia, erysipelas, diabetes and tuberculosis.

3. The dressings are made by the aid of bandages covered with gold-beater's skin to prevent evaporation. They are renewed once or twice a day according to the needs of the case.

4. The results obtained, even after capital operations, have been very satisfactory. Not only recent wounds, but old ulcerations, and those covered with a slough, have gone on rapidly towards cicatrization. Union by first intention after amputations is favored by this mode of dressing.

5. The general condition of the patients seems to be favorably influenced. Traumatic fever, for instance, being as a rule very slight.

6. The advantages which oxygenated water possesses over carbolic acid is in its having no toxic effect and in the absence of unpleasant odor. The application gives no pain.

7. In addition to its use as a dressing after operations oxygenated water gives very good results when applied to ulcerations of every kind, deep abscesses, ozena, purulent cystitis, etc.

The authors call attention to the fact that where aufractuous cavities are injected with the oxygenated water that the water should not be charged with more than one-half its volume of the gas, for if a stronger solution is used the sudden liberation of the oxygen may rupture blood-vessels or recent adhesions.

Double Fungous Arthritis of the Knees.—M. Marc Sée related before the Société de Chirurgie a case of double fungous arthritis of the knees in a young girl, and which he treated successfully by iodoform. This mode of treatment had already given good results in the hands of several surgeons, and particularly of Mossetig, of Vienna. In the patient of M. Sée their existed luxuriant fungosities in the left knee; no liquid in the joint, and no fistulæ. An intra-articular injection of sixteen drops of a solution of iodoform and ether was made, but the reaction was very prompt and severe. However, at the end of a fortnight a considerable amelioration was observed. Encouraged by this success, M. Sée made another injection into the opposite knee. Compression was continued for a long time, and two months after the injection both knees were considerably diminished in volume, and walking had become possible. M. Despres, commenting on the case, said that injections of iodoform into the articulations were getting very common. He obtained a manifest amelioration in two cases in which he employed them, but the iodoform treatment was to him quite new. He saw and examined the case of M. See, and he was able to discover a good amendment, but the cure was not completely effected. He considered that in that case the best thing would be to seek to obtain an ankylosis in a good position. M. Verneuil could not see quite clearly whether, in the case in question, the existence of fungosities was proven. Fungosities were classed under three heads—those depending directly on chronic rheumatism; those which were symptomatic of osseous lesions; and the tubercular follicles of the synovial membranes. This division was important, for when tuberculous follicles were present amputation should be performed, as resection was always followed by a return of the disease. On the contrary in the case of a rheumatic affection, compression, cauterization, iodine injections, and others, succeeded very well. As for the fungus depending on disease of the bone, resection succeeds very well. M. Lounelongue could admit but two varieties of fungus—the tubercular and the inflammatory. A Lyons surgeon gave an account of a case in which he had to open the ankle joint and scrape the fungi of the articular surfaces. The case did well afterward.—*Med. Press.*

OBSTETRICS.

Catarrh of the Cervical Canal of the Uterus.—This disease not only constitutes a chronic affection disagreeable to the patients, but it is very often an absolute cause of sterility. The incessant production of a tenacious stringy mucus forms a sort of plug which holds the uterus in a state of permanent occlusion; hence the sterility. Outside of surgical means applicable to this affection, Dr. Cheron, of the Hopital St. Lazare, has obtained the best effects from the following treatment:—After having properly cleaned the cavity of cervix by means of an injection practised by a syringe, he placed in the canal a pencil of bread-crumb, which is steeped at the moment of the application five or six times in a strong solution of tincture of iodine

Tincture of iodine	℥i.
Iodine	ʒi.

The pencil is maintained *in situ* by a plug of cotton, to which a string is attached, in order that the patient may be able to draw it out two or three hours afterwards. This treatment is renewed as often as necessary.—*Med. Press.*

Nitrate of Lead in Cancer of the Cervix Uteri.—M. Cheron, in the *Revue des Maladies des Femmes*, says that he has had very good results from the direct application of the nitrate of lead powdered, to the ulcerated cervix. After touching the ulcerated surface with glycerine, he injects about a quart of cold water, containing about a drachm and a half of tr. ferri perchlorid., and then dries the surface with absorbent cotton. Finally, the following powder is introduced, by means of a syringe made for injecting powders:

℞	Plumbi nitrat., pulv.,	℥ss.
	Lycopod., pulv.,	℥j, M.

The powder is retained in place by a tampon of cotton. Through this means suppuration diminishes considerably, as also the bad odor. Even hemorrhage is not so profuse, and in some cases it is entirely suppressed.

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Cincinnati, August 12th, 1882.

Miscellany.

Disinfection, by Prof. Koch.—The *Deutsche Medizinal Zeitung* contains an abstract of a contribution by Prof. B. Koch to the Kaiserlichen Gesundheitsamte, from which we take the following:

In order to estimate the value of any disinfectant, it is of prime importance that we first determine its capacity for destroying the lower organisms and their germs. In testing this ability, we may use the permanent spores of bacilli—in Koch's experiments, the charbon bacilli—for to the present time there has been found no micro-organism with greater vital tenacity. After this it remains to investigate the conduct of the agent towards bodies of less resistance; to the spores of fungus, yeast and bacteria. Third, it has to be shown to what extent the agent will retard the development of germs; and in conclusion the question remains, in what degree of concentration the agent must be used in order to produce its effects within a given period, after the vitality of the septic poison and other important questions in regard to the applicability of the agent have been considered.

Having made many experiments the author finds the following to be true:

Carbolic acid in a one per cent aqueous solution does not in the least affect the power of development in the charbon bacilii; a two per cent solution will diminish the power of germs to multiply after three days; a three per cent solution decreases this power in two days; a four per cent solution greatly diminishes it in 24 hours and destroys it in three days, while a five per cent solution diminishing it in 24 hours destroys it in two days.

"The results of these experiments," says the author, "were entirely unexpected. We are accustomed to look upon the two per cent aqueous solution of carbolic acid as a sure method of destroying, in a few minutes or even in a few seconds, all kinds of micro-organisms. The surgeon washes his hands in it and rinses his instruments in it and he believes them perfectly free from all liability of conveying infection, and that he can handle the wounds of his patients without danger to them. These investigations, however, show that when, by accident, charbon spores or some poison as an infectious matter of strong vitality has been allowed to come in contact with the hands or instruments of the surgeon, and has not been removed, by some mechanical aid to the water, the addition of carbolic acid to the wash-water will not in the least protect his patient from infection."

Carbolic acid, however, in the strength of a five per cent solution, will prevent the development of the less resisting bacteria. Carbolic acid in the form of vapor at the ordinary temperature is entirely without action, but becomes active when associated with a high temperature. (This is also true of sulphuric acid.) The solutions of carbolic acid in alcohol and oil are utterly inert, both against the charbon bacilli and the more easily destroyed bacilli. Carbolic acid as found in composition in the various carbol-yielding substances, e.g.: natrium phenol, natrium sulpho-carbolic, etc.; stand on a par with carbolic acid as a disinfectant agent.

Sulphuric acid developed from the burning of sulphur is absolutely powerless against matters containing germs. Bacilli which would be killed within twenty minutes in a closed box will be not all or only very slightly affected by disinfection in a room.

A certain disinfectant action may be obtained by previously moistening objects to which it is applied.

Chloride of zinc surpasses this in that it is an absolutely sure disinfectant, in the strength of a one per cent solution. This solution will check the development of the micrococcus prodigiosus after acting upon it sixteen hours, yet does not altogether destroy it in forty-eight hours. Yet a five per cent solution has proved absolutely inert against the charbon bacillus in thirty days.

There are other substances which kill the bacilli as freshly prepared chlorine water; 2 per cent bromine water; iodine water; 1 per cent corrosive sublimate; 5 per cent sol. permanganate of potash; 1 per cent osmic acid, within one day; formic acid in four days; 5 per cent chloride lime; sulphate ammonia; oil turpentine in 5 days; 5 per cent chloride of iron, chloro-picric acid solution in 6 days; arsenic (1 per cent); quinine 1 per cent in water with HCl; 2 per cent hydrochloric acid in 10 days, and ether in 30 days.

The following are among the substances which are inert or but slightly effective against the charbon spores:

Distilled water, alcohol, glycerine, oil, sulphuretted carbon, ammonia, concentrated salt solution, potassium, iodide and bromide, 1 per cent; acid sulphuric, zinc and copper sulphates, (5 per cent); alum, permanganate of potash, 1 per cent; chromic acid, 1 per cent; chromate and bichromate potash, 5 per cent; chlorate potash, boracic acid, 5 per cent; acetic acid, 5 per cent; tannin, 5 per cent; benzoic acid, 5 per cent; benzoate soda, indol, skatol, leucin, (4 per cent); quinine, (2 per cent, in water 40, alcohol 60); iodine, (1 per cent in alcohol); thymol, (5 per cent in alcohol); salicylic acid, (5 per cent in alcohol, 2 per cent in oil.)

Among the remedies which have the power of checking the development of lower organisms corrosive sublimate stands in the lead. It hinders the development of the charbon bacilli when diluted to the degree of 1 part to 1,600,000, and kills them in the strength of 1 : 320,000. Then come mustard oil (1 : 330,000 checks; 1 : 33,000 kills), arsenite of potash (1 : 100,000 checks; 1 : 10,000 kills), thymol (1 : 80,000 checks), oil turpentine (1 : 75,000 checks), prusic acid (1 :40.000 checks; 1 : 8,000 kills) oil peppermint (1 : 33,000 checks,) chromic acid (1 : 10,000 checks; 1 : 5,000 kills), picric acid (1 : 5,000 kills, but to retard development with 1 : 10,000 has not yet been attained), iodine (1 : 5,000 checks), salicylic acid (1 : 3,300 checks; 1 : 1,500 kills), permanganate potash (1 : 3,000 checks), muriatic acid (1 : 2,500 checks; 1 : 1,700 kills); camphor (1 :2,500 checks), eucalyptol (1 : 2,500 checks), benzoic acid (1 : 2,000 checks), borax 1 : 2,000 checks; 1 :1,700 kills), boracic and carbolic acids (1 : 1,250 check; 1 : 800 kill).

In contrast with the generally accepted views on the subject of disinfection, which look upon as a fixed fact the death of micro-organism — not merely a retarding of their development — and that in a very short time, the above results show that for disinfection the only remedies that are at all worthy of consideration are corrosive sublimate, chlorine, bromine and iodine (for the 5 per cent solution permanganate of potash and osmic acid must be excluded for practical reasons).

Extended investigations show that, for rapidity of action, bromine vapor is superior to chlorine and still more so when compared with iodine; and it is only in this respect that corrosive sublimate excells diluted nitric acid and oxysulphate of silver. Experiments made for the purpose of determining whether the action of corrosive sublimate upon the blood of living guinea pigs infected with charbon poison could disinfect the blood, and by its disinfectant powers overcome the disease so as to rescue the animal, resulted negatively. The author does not, however aban-

don the hope that at some future time animals can be placed under the influence of antiseptic agents by which the bacilli of charbon in their systems may be overcome or entirely subdued.
J.M.F.

ROASTED COFFEE AS A DISINFECTANT.—Dr. Barbier, in the *Journal de Medecine et Pharmacie de l'Algerie*, relates his first experience with roasted coffee as a disinfectant, and presents it in a manner that leaves little room to doubt its efficacy in this regard. Some nineteen or twenty years ago his services were called into requisition as a medical expert, and in the performance of his duty he found himself one day in company with the magistrate of Roaune and his suite, at a country inn, in which a man had been assassinated the evening before. It was excessively hot, so much so, as to surpass the highest temperature known to Algeria. The party was introduced into a closed chamber, where the body of the victim lay on the ground, but they were all seized with so alarming a sense of asphyxiation on entrance, that they incontinently beat a retreat, and the physician was the first to lead the inglorious movement. In a moment, however, the magistrate, without being much disconcerted, asked for some ground coffee from the innkeeper, who at once brought a plate full, and the worthy magistrate proceeded to liberally spread it over the cadaver, around the walls and the floor. Instantly the odor disappeared and the physician was enabled to make the autopsy without further inconvenience. The surprise of medical authority at this unexpected change in the surroundings was only equalled by that of the legal light on learning that such a method of disinfection was unknown. Some time after, Dr. Barbier had occasion to make another autopsy upon the body of an infant which had been fully a week in the water, and he met with the same success in removing the intolerable effluvium. In another instance, in which the remains of an old clergyman were exposed in a *chapelle ardente*, the mephitic exhalations present were completely neutralized by a quantity of Mocha coffee, much to the general astonishment.

Dr. Barbier expresses his regret that it had not occurred to him to use coffee, either in powder or decoction, at an earlier date, in the treatment of foul ulcers, or as an addition to the applications necessary after surgical operations; but he has recently given it a successful trial in a case of ulcer of the sacrum in an old Jew suffering from tabes, and intends hereafter, to replace the usual classical combinations of charcoal, quinine and chloride of lime in poultices by this new agent, wherever these last have been applicable, as in all ulcers of a sluggish nature, anthrax, etc. It is to be further regretted, he feels, that the delicious aromatic principle of coffee should be lost in the process of torrefaction, and an effort should be made to utilize it as much as possible in purifying our households with it. Dr. Barbier notes also the neutralizing effects of coffee in the narcotism produced by tobacco and other noxious [illegible]. There is no better antidote. Everyone addicted to smoking knows how quickly the narcotic drowsiness frequently experienced is dissipated by half a cupful of that beverage. Whether this useful berry exhibits its virture as a disinfectant by reason of simple absorbing powers, rather than any chemical action, is not known, but its usefulness as a neutralizing agent cannot be questioned.—*La France Medicale.*

CEREBRAL PHYSIOLOGY.—Dr. Brown-Séquard has continued his vigorous criticism of modern neurological theories in another communication to the Académie des Sciences. He pointed out that these doctrines rest upon two kinds of proof, to one of which his paper was devoted—namely, to the evidence which has been drawn from the phenomena observed when various parts of the cerebrum are irritated; phenomena which consist chiefly in movement of the limbs on the opposite side. The foundations of the doctrine that movements of one-half of the body are innervated from the opposite half of the brain have been considerably strengthened by the experimental and clinical facts on which the theory of psycho-motor centres rests. But to this doctrine Dr. Brown-Séquard states that his own experiments are absolutely opposed. The numerous researches which he has undertaken during the last four years seem to him to involve conclusions exactly contrary to the opinions which are universally received. For example, against the assertion that the irritation of the motor region of the brain uniformly produces movements in the limbs on the opposite side, he opposes certain experiments of his own. These show that irritation of one side of the pons Variolii or of the medulla, even of the anterior pyramid, causes eight or nine times out of ten movements of the limbs on the same side, and the same effect is observed when, after a transverse division of one-half of the medulla, the superior part of the pons is stimulated, mechanically or by electricity, in the part considered as motor. Irritation of the cerebral peduncle in the part considered as motor often causes movements of the limbs on the same side. This result occurs five or six times in ten when the stimulation is applied to the upper part. If the fibres are galvanized which pass from the corona radiata or corpus striatum to the peduncle, movements are often observed on the corresponding side of the body. If these parts are divided transversely on the right side or on the left, the mechanical excitation thus produced rarely causes movement, but when it does the effect is usually manifested on the same side as the irritation. Even stimulation of the motor zone of the cortex, as Couty has shown, sometimes causes movements on the corresponding side. Moreover, Dr. Brown-Séquard has repeatedly shown that if this zone is galvanized, after the lateral half of the medulla or of the pons Varolii is divided, the movements in the opposite limbs, instead of being prevented by this section, occur with still greater force than before the division of those conductors which have been believed to be alone capable of transmitting the stimulation of this zone to the limbs.

According to received doctrines, if one lateral half of the cervical cord is divided at the level of the second pair of nerves, and different parts of the brain are then stimulated, mechanically or electrically, on the same or on the opposite side to the spinal lesion, no movement should occur, or only a very slight movement in the members on the same side as the lesion. But Dr. Brown-Séquard finds that, under these circumstances, stimulation of the brain causes energetic movements of the limbs, such "bipedal" movement, diagonal or lateral, to the right or left, or a movement of three, or even of four limbs. He concludes from this that one-half of the cord will suffice to transmit to the limbs, on both sides of the body, the excitation caused by stimulation of the opposite half of the brain.

According to received doctrines the transverse section of the two lateral halves of the base of the brain, the one section at a distance of one centimetre above or below the other, ought to destroy all or almost all communication between the spinal cord and the portions of the brain above the higher section, so that mechanical or chemical excitation of the cortex should cause no effect on the limbs. But Dr. Brown-Séquard asserts that under these circumstances not only does stimulation of the motor centres act energetically upon the limbs, but the same effect is produced by stimulation of the parts which are not considered to be motor, such as the opto-striate bodies. In this case, also, the effect is usually most marked on the same side as that stimulated. An analysis which Dr. Brown-Séquard has made of 500 cases of unilateral convulsions in consequence of varied lesions of the brain, show that the same result is true of man as of animals. Irritation of the base of the brain and the adjacent motor regions causes convulsions more frequently on the side irritated than on the other. The superficial parts of the brain, it is true, produce chiefly crossed convulsions, but irritation in all parts *may* cause convulsion on the same side.

The conclusions drawn by Dr. Brown-Séquard are that one of the chief foundations for the theory of psycho-motor centres, and of the crossed functional relation between the hemispheres and the limbs, must be considered to have lost its value ;. and, secondly, that the excito-motor zone of the cerebral surface, and indeed all the excitable parts of the brain, are capable of putting in action the limbs of the same side, as well as those of the opposite side, and that they may produce these effects after the transverse division of one-half of the pons Varolii, of the medulla, or of the cervical cord, and even after two sections of the base, one of the right half and the other of the left, provided a certain interval exists between the two.—*London Lancet.*

THE DEVELOPMENT OF LAMBS.—At the Société de Biologie M. Regnard showed the development of six lambs under the following conditions: Three were submitted to the ordinary vegetable *regime*—the other three were fed with the same, but with the addition of a certain quantity of powdered blood cooked and dried. The first three lost flesh considerably, while the others became so fat that people declared never to have seen such fine lambs of their age. M. Regnard considered that if further experiments confirmed these results, a great economical advantage would result from the employment of blood, of which several hundreds of thousand quarts are lost in the *abattoirs* of Paris weekly. Other experiments would be tried on calves, and the results would be communicated to the Society. M. Bouley asked why this mode of alimentation should not be employed for children deprived of a nurse; whereupon M. Regnard related the case of a child of eighteen months who was attacked with rickets, and in whom this treatment gave excellent results.—*Med. Press.*

COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES BY MEDICAL MEN.—A fortnight since a meeting was held at Greenwich to consider the proposal to compel medical men to notify cases of infectious diseases in their practice to the sanitary authorities. Many of those present spoke against the provision, whilst no one spoke in its favor.

The following resolutions were unanimously carried :

1. That we form ourselves into an association for the simple purpose of resisting the attempts that are being made to compel medical men to notify cases of infectious disease.
2. That we affiliate with the Liverpool Association formed for a similar purpose.

A letter was directed to be sent to the Chairman of Council of the British Medical Association, requesting him to appoint a special time at the annual meeting at Worcester for discussing this question.—*Medical Press.*

"I WOULDN'T be in Egypt," said Mrs. McGill last week, "for all the wealth of Creosote." Seeing a look of astonishment in the faces of her auditors she added: "Creosote, you know, was an old Roman god, and everything he touched turned into gold.

HISTOLOGY OF STRIATED MUSCULAR TISSUE.—The learned Director of the Histological Institute of Stockholm, Professor Retzius, has just published a work under the title of "Biologische Untersuchungen," which contains the results of the labors of the students in his laboratory, and of his own researches during the last ten years. He leads off with a paper on the Structure of Striated Muscular Tissue, and states that he has devoted his attention to the muscular tissues of insects chiefly on account of the large size of the elements of the tissue in these animals; and as the Hydrophilus was not accessible to him, he selected the Dytiscus marginalis. He investigated the muscles of the legs and the long muscles of the thorax and abdomen. They were examined partly in the fresh state, immersed in the blood-serum of the insect itself; and partly after treatment with various reagents—as chromic acid, potash bichromate, picric acid, picrocarmine, osmic, acetic, and formic acids, and gold and silver chloride. He found osmic acid and potassium chromate in solutions containing one per cent., with subsequent coloration with fuchsin and treatment with potassium acetate, very serviceable in preserving the color of fibres; but gold chloride solutions proved the best, either with or without previous immersion in formic acid. In specimens so prepared, there are first to be seen transverse transparent light red or violet broad bands alternating with yellowish narrow striæ, in which an indistinct granular appearance is sometimes visible. The broad bands correspond to the well-known anisotropous discs, and are sometimes subdivided by an indistinctly granular striæ, which corresponds nearly to the intermediate discs of Hensen. The sarcolemma around the fibre, and two, or in large fibres even three, longitudinal rows of nuclei, present the characters usually ascribed to them. In specimens deeply stained with gold chloride, Professor Retzius has noticed several novel points of structure. In the first place, he describes the muscle fibre, when seen on its lateral aspect, as presenting a number of sharply defined purplish granules embedded in transparent fundamental tissue, nearly equal in point of size, and situated at about equal distance from each other, both laterally and in the direction of the length of the muscle, though the distance between them is somewhat greater in the last named direction. These granules divide the muscle into small rectangular areas, which are arranged parallel to its long axis. The granules are most distinct near the centre of the fibre, and every second transverse row of granules is rather more distinctly marked than that which intervenes. In fortunate specimens, it may be seen that the granules are prolonged transversely in the form of a filament through the fibre. In transverse sections, it may be observed that the fibre is seldom cylindrical, but polygonal; and near the middle is a stellate figure, in the centre of which is a nucleus surrounded by a little mass of granular protoplasm. The fibres radiate in all directions from the stella, and run parallel to one another, with gentle undulation and occasional dichotomous branching and junction, to the periphery. The spot where they branch or join is marked by a small nodal point. The interspaces of the fibres are filled with a transparent, colorless or slightly reddish, structureless substance. Professor Retzius is of opinion that the fine lines which are thus seen over the whole area of the transverse section of a muscular fibre are processes of the central cell, and remarks that no one will think this improbable who has examined the connective tissue cells of the tail of a tadpole. By long maceration the homogenous intermediate substance may be removed and the fibrous network obtained in a separate condition, and such isolated fibres may sometimes be seen in torn sections. These, in the drawings accompanying the text, resemble the dentinal tubes radiating from the pulp cavity, or, better, the old drawings of the fibres of the lens as they radiate from the central stella of that body. According to this view, then, there is a homogeneous basal substance which is traversed at regular distances by layers of fine filaments given off from a mass of protoplasmic substance situated near the centre of the muscular fibre, and extending horizontally to the sarcolemma; and these are arranged in two series alternating with each other, one of which is thicker or coarser than the other. The successive plates of filaments break up the intermediate substance into rectangular particles. Professor Retzius thinks that Schæfer's muscle-rods are optical sections of his transverse fibrous network. The advance of histological research, it may be remarked, does not appear to bring us any nearer to an intelligible physiological explanation of the contractile form of muscle.—*London Lancet.*

Obituary.

PROF. WILLIAM H. MUSSEY, M.D.,

"Be ye also ready?"

WILLIAM HEBERDEN MUSSEY, M.D., was born in Hanover, New Hampshire, Sept. 30th, 1818. Of English descent on his mother's side, and of Huguenot blood on that of his father, he was the rich inheritor of noble qualities from a heroic ancestry. He received an academic education in his native state. His father, Reuben D. Mussey, M.D., L.L.D., was called from his Eastern home to fill the chair of Surgery in the Ohio Medical College in 1838, being at that time 58 years old. That high position, to which he was so eminently suited, he held for 14 years, building up by his splendid talents and wonderful energy, a reputation for honesty, skill and originality, not surpassed by any of the great surgeons that this country has produced. In 1852 R. D. Mussey assisted in founding the Miami Medical College, in the Faculty of which he was a towering figure for five years. He was now 77, but in the vigorous possession of his marvelous faculties, both of head and heart, which he never ceased to turn to good account in the relief of human suffering and the elevation of his race. After this glorious career of usefullness he removed to Boston, in 1859, where he spent the rest of his honored days in a peaceful old age, dying in 1866 at the extreme age of 86.

His father likewise a great physician lived to the same advanced age.

When R. D. Mussey settled in Cincinnati, William was 20 years old. After a few years in mercantile life, not at all suited to his ambition, he engaged in the study of medicine under the illustrious guidance of his father, and graduated in the spring of 1848. He remained in a busy practice with his father till the spring of 1852, when he went to Europe, and spent nearly two years in the more thorough prosecution of his medical studies.

While in Paris he was elected President of the American Medical Society of that city.

After this period of faithful work in the hospitals of Europe he returned to Cincinnati in the fall of 1853. He was already so well and favorably known, that he entered at once into an active practice, having associated himself for a number of years with Dr. William Clendenin. With the foresight of a clear head and an honest heart, trusting in God and in the right, he predicted the struggle which opened in 1860 between freedom and slavery. When the tragedy began, his New England training and high sense of justice, led him at once, without a moment's wavering, to take the right side. It was by his active interference, through the agency of Salmon P. Chase, that the old Marine Hospital on Lock street was fitted up by private contributions and turned over to the United States in less than three months. In his office aided by his counsels solicited by the parent society, the Cincinnati Branch of the Sanitary Commission was organized and set into active operation. Prompted by his burning patriotism, and forgetting himself in his country's perils and needs, he volunteered his professional services free of charge, for the term of the war, be it long or short. This generous offer was refused by the Government. In his determination to serve his imperiled country in the best possible way, he went to Washington, was examined and at once commissioned brigade surgeon. After returning home, with the promised expectation of taking charge of the hospital he had so well organized, he was orderd to Gen. Buell's army, made medical director of a division, and was in active service in the battles of Pittsburg Landing and Corinth. He was soon promoted to the rank of Lieutenant-Colonel and appointed Medical Inspector. He was in the thickest of the fight at the second Bull Run, at Antietam and Fredericksburg. In his capacity of Medical Inspector he personally investigated every regiment from Washington to Florida. He never, in all this trying period, shirked a duty or shrank from the post of danger. In the honest and patriotic discharge of more than his duties, he consulted not with flesh and blood, forgetting everything personal, in his desire to succor and save the noble men under his care. The dim eyes and aching homesick hearts of sick and wounded soldiers, never looked into more earnest and hearty eyes for sympathy and help than those they saw in the large, heavenly blue eyes of Wm. H. Mussey.

Dr. Mussey was appointed one of the surgeons of the Cincinnati Hospital in 1863, a position which he filled to the time of his death, with his wonted fidelity. In 1864 he was elected Vice-president of the American Medical Association. Before the war he acted as surgeon to St. Johns Hotel for Invalids, and after its close, he was made Surgeon-General of the State of Ohio. In 1865 he was appointed to the Chair of Surgery in the Miami Medical College, and has held the position with distinguished ability ever since. The busy demands of an active practice did not absorb all his time. He was greatly interested in the Society of Natural History, to the museum of which he contributed some very valuable specimens. They recognized his zeal and ability by electing him their president. For several years he was a member of the School Board and for a time its president. No man in the Board labored harder in the interests of education and for the moral elevation of the children of the public schools, than W. H. Mussey. He contributed a large and valuable collection of books partly left by his father and partly collected by himself at great sacrifice of time and considerable personal expense to the Public Library, of Cincinnati. He deserved great credit also for his never tiring labors in saving and securing for the Cincinnati Hospital the large and valuable collections of its museum. At the time he died, he was busily occupied in fitting up the museum and rearranging it for better protection and more satisfactory illustration, in the College to whose interest he was so deeply devoted.

The professional, literary and social work achieved by Dr. Mussey in 30 years, was remarkable, and his shining example has been the admiration and the inspiration of thousands. His beautiful simplicity of character and his benevolence, displayed in so many tender ways and for so many laborious years, lent lustre to his name. How many poor sorrowing hearts to whom he said "be of good cheer" will cherish his memory! Honesty and directness were the distinguishing features of his life. His tender sympathies and unsuspecting nature made him sometimes the victim of imposition. Tramps, especially of his own profession, always knew how to find the door of his heart, and never knocked in vain for his sweet hospitality.

Conscientious carefullness was the rule of his life both private and professional. He was thoroughly devoted to his patients, and his careful after treatment was as much the secret of his success in surgery as his accuracy of diagnosis and skillful use of the knife. He took a deep interest in the progress of medical science, and contributed largely to its literature. His interest in the young men whom he instructed did not cease with the end of the lecture term. But he kept their addresses, corresponded with many of them, filed and numbered their examination papers, and kept himself informed of their successes or failures in life. Indeed, many professional men remember his kind interest and counsel, and attribute much of their success to his generous encouragement. All who were familiar with Dr. Mussey remember how he revered his great father, R. D. Mussey, and guarded his memory with true filial affection. One of his last acts of devotion was to secure a beautiful bust, at his expense, to be placed over his father's grave. His just pride in, and almost adoration for his noble father, were the inspiration of his beautiful and successful life.

His cheerful devotion to his afflicted wife for so many suffering years, and his utter forgetfulness of himself in all the tender ties that bound the family so sweetly together, will never be forgotten by those who knew him intimately. He belonged to the faithful few that help to leaven the heavy lump of selfish humanity in the world, and save it from hopeless meanness. There have always been a few good Samaritans among the multitudes of priests and levites that pass by on the other side. He was an earnest and sincere Christian, and carried the spirit of his Master into every department of his busy life. He was too busy in the faithful discharge of every duty to get *ready to die*. He was always *ready to live* the only life worth living, in which death is but an episode; not the end but the true beginning.

He fell at his post, in the midst of health, with the suddenness of lightning, and the rainbow of hope that spanned the sky as his earthly remains sank to their resting place, was the sign that all is well. His ever-readiness to depart is beautifully described in the undying words of Shakespeare: There's a special providence in the fall of a sparrow. If it be now, 'tis not

to come; if it be not to come, it will be now; if it be not now, yet it will come. The readines is all.
E.W.

One more revered head laid low; another veteran gone, whose answering "Here," right cheerily and bravely though it sounded now this many a year, shall henceforth be so sadly missed at calling of the roll. Scarce had his pen traced words of kind and friendly condolence for another's loss ere he himself was called upon to test the weighty meaning of that admonition "Be ye also ready." A life of wondrous and untiring activity, ever in the foremost ranks, thus suddenly has found its close and left in many a heart a void, most difficult to fill. There came to him the heritage of an honored name and the example of an illustrious father; ever mindful of both, as well as of the high aim he set himself in life, he strove to make himself worthy of the patrimony so gratefully remembered and to leave to others a legacy whose value should have been enhanced by his stewardship. Not ours the task to dwell on the many professional excellencies, which made his name familiar throughout his own and neighboring states, not ours to mention the sterling, upright qualities that caused all to respect the man for his sincerity aud truth; an abler pen, more thoroughly acquainted with his daily life through long association, has written his obituary. To give expression to the kindly feelings inspired by his ever considerate treatment of his younger brethren, inferior in years and in experience, to testify our gratitude for the friendly encouragement, so constantly received, in word and in deed, and to join in their sorrow the many, who have in his taking-off lost a true friend, is the only sad duty remaining. There may be those more gifted and more brilliant, more facile in their speech, more ready with the pen; but few excelled in steadfast faith and integrity of purpose, few equalled in sincere and heartfelt courtesy for all. The younger generation have lost a friend, ever ready to accord it the full mead of honor, ever anxious and hopeful for its future success; who, with the rich store of his own past experience, was yet ever willing to receive new opinions, to treat with respect the ideas of others. We do ourselves honor in our remembrance of him; and the recollection of his friendship will be, as it has been, a source of inmost satisfaction and pleasure.
J.E.

RESPECT TO HIS MEMORY FROM THE MEDICAL PROFESSION.

A large meeting of the medical profession was held August 3d, at Lancet Hall, to take action on the death of Dr. W. H. Mussey. Dr. John Davis was elected Chairman and Dr. McReynolds Secretary.

Dr. Davis stated to the meeting that it had been called together to take some action on the death of Dr. Mussey, an honored member of the profession. He was an intelligent and courageous physician, and one who, by his life, set an example which should be followed.

Drs. George Conner, Tate and Keyt were then appointed as a Committee on Resolutions. In their absence letters were read from Drs. David Judkins and W. H. Falls. The latter, who had been the partner of Dr. Mussey, expressed himself as follows:

"Words cannot express the depth of my sorrow at the death of my dear friend, Dr. William H. Mussey. He acted toward me in every respect as a father to a son, and as such I mourn his loss. In my association with him, both as his assistant and as his partner during a period of nearly nine years, I ever found him to be the same true and faithful friend under all circumstances. He was ever ready to give me a kind word of advice and to encourage me with words of cheer in my professional work. He was a man pure in thought, word and deed, and conscientious in every act of his life.

"Devoted as he was to his profession and to every righteous cause, he was even more devoted in the relation of husband and father.

"His home life was a source of great pleasure to him, and he spared neither time nor money to make his home a comfort and a joy to his wife and son.

"It was one of his greatest desires to live to see his son educated for the medical profession, and started in his professional career, and though his fond hopes were not realized, *that son* is *to-day* an *honor* to his father's name. Dr. Mussey was a true Christian, and practiced his religion in his daily life. Death had no terrors for him, and when the summons came it found him ready.

"Farewell, dearest and best of friends. May I emulate thy virtues, and may the memories of thy counsels and associations guide me in my future life, and at last may I meet thee in 'the haven of the blest.'"

Dr. Walker spoke of the deceased, having had an acquaintance with him dating back to 1846. He had found him to be a true man in every sense of the word. In slavery days he had no fears of what the world might say, but acted according to what he believed was right. His influence had exerted great benefit.

Dr. Williams said the deceased had been a gigantic man in the profession. He was a man of essential nobility of character, bravery of heart and stout of courage. So genial was his disposition that his entry to the sick room was like sunshine. He died at his post in the harness of honest duty.

Dr. Taylor said all would testify to Dr. Mussey's qualities. Not the least among his good traits was that of unselfishness, so notably illustrated in his formation of the magnificent library. The speaker, reverting to slave days, cited instances of the Doctor's work at that time.

The Committee on Resolutions reported the following:

WHEREAS, Our friend and brother, Dr. William H. Mussey, has been suddenly called from his labors on earth; and

WHEREAS, In his character we recognize many of the finest traits of human nature, characteristics that command our warmest admiration. It is a privilege, and even a pleasure, on this sad occasion, to bear testimony to them.

His career as a successful, painstaking and laborious practitioner, and liberal, public-spirited and patriotic citizen is known to all. For in the daily walks of his vocation, in the hospitals and medical colleges, the army, Board of Education and Public Library, as well as the various scientific societies, he made his mark, and well earned a reputation for zeal, industry, intelligence, efficiency and liberality. In a word, we may say of him as a man and a professional brother, that he has filled out well the measure of his days, has left behind him a noble example which well may be followed by us all. Therefore, as an expression of the sense of this meeting, be it

Resolved, That in the death of Dr. W. H. Mussey the profession of medicine has lost a distinguished, enlightened, honorable and loyal member, and the community a highly valuable citizen.

Resolved, That our sincere sympathy is due, and is hereby expressed for his wife and family.

Resolved, That the usual publicity be given to these expressions of our esteem and regret.

J. H. Tate,
Geo. Conner,
A. T. Keyt.

Dr. Tate said the deceased was a man of wonderful abilities for grasping at once every detail of a case. His views of life were of the broadest, and all know of his efforts to advance the general education. He was a noble, generous, untiring man.

Dr. Young bore high testimony to the rare mental excellencies of the deceased.

Adjourned.

PUBLIC LIBRARY COMMITTEE.

Whereas, By the decree of the supreme inscrutable power governing the universe, our friend and former colleague, Dr. William Heberden Mussey, was unexpectedly taken from our midst, be it

Resolved, That in his death we mourn the loss of a man who, in the discharge of his duties as a member of this Board, was a bright illustration of manliness, honor, integrity and disinterestedness; one who attained the highest honors in his profession as a physician; was a liberal and munificent doner to the Public Library, a zealous colaborer in its interest, and an ornament as a member and officer of this Board.

That we offer this, our expression of profound grief and sorrow, as a tribute due to the many sterling qualities of the deceased.

That the Library be closed during the funeral, and that we tender our deep sympathy to the family of our lost member and friend, and that a copy of these resolutions be transmitted to them.

Chas. G. Jenner,
Francis Ferry,
Daniel Finn,
Committee on Resolutions.

ACTION OF THE MIAMI MEDICAL COLLEGE.

At a called meeting of the Faculty of the Miami Medical College, of this city, August 2d, Dr. E. Williams presiding, the following preamble and resolutions were adopted:

Whereas, Dr. Wm. H. Mussey, Professor of Operative and Clinical Surgery in this College, has been removed from our midst, stricken down by the hand of death while in the discharge of his professional duty toward his fellow-beings; and

Whereas, It is proper and incumbent upon us, his colleauges, to give expression to our sense of his irreparable loss, therefore

Resolved, That in the death of Dr. Mussey this Faculty has lost one of its most industrious and valuable teachers, whose labors and example were so effective in establishing this College upon an enduring basis, a man who was devoted to the elevation of the standard of medical education, and to whom both shall ever remain gratefully indebted.

Resolved, That his record as a member of this Faculty in following throughout their career with affectionate regard and interest the graduates who have gone forth from this College, is one that his survivors can look upon with pride and satisfaction and a sense of honor.

Resolved, That this Faculty bears cheerful testimony to the unvarying course of Dr. Mussey as an upright, honorable Christian gentlemen, whose whole labors were directed to the best interests of society by his constant inculcation of enlightened Christian principles, of which he was himself a noble example.

Resolved, That the sympathy of this Faculty be tendered to the family of Dr. Mussey in their sad bereavement, with the assurance that it shall always feels their loss as its own, and cherish his memory.

Wm. Clendenin,
Byron Stanton, } Committee.
E. Williams.

ALUMNI OF MIAMI COLLEGE.

The Alumnal Association of the Miami Medical College met at the College Building in the morning, with Dr. W. H. Wenning in the chair and Dr. Wm. Judkins secretary. Drs. Stanton, Kellar and Bigney prepared the following resolutions, which were unanimously adopted:

The Alumni of the Miami Medical College, having met to express their sense of the calamity which has befallen them and their Alma Mater in the death of their beloved teacher, the late Prof. W. H. Mussey, hereby adopted the following:

Resolved, That in the death of Prof. Mussey, we mourn the loss of a distinguished surgeon and an able teacher, whose name will ever be held in high esteem.

Resolved, That in his death the profession has lost an eminent and distinguished member, the community a public-spirited citizen and the student of medicine a faithful friend.

Resolved, That we tender to the family of the deceased our heartfelt sympathy in the great loss they have sustained.

Resolved, That a copy of these resolutions be sent to the family of the deceased and tendered to the daily papers and medical journals of the city for publication.

Resolved, That we attend the funeral in a body.

Letters were received from Dr. W. C. Henry, of Aurora, Ind., President of the Society, and Dr. John O. McDowell, of Delaware, O.

Eulogistic remarks were made by Drs. Wm. B. Davis, Bigney, Taylor, Crank and LeBoutillier.

Original Communications.

ON HIGH TEMPERATURE NOT BEING PER SE A GRAVE SYMPTOM NOR AN INFREQUENT ONE IN THE EARLIEST STAGES OF TYPHOID FEVER.

By Francis Wardropes, M.R.C.S.L.,
Lexington, Ky.

Whilst acting as medical attendant to the Crorke Coal and Mining Company in Scott County, Tennessee, I had cases of typhoid fever in which the temperature ranged from 104° to 105° on the third day of the seizure. The type was remarkably mild, there was but slight mental disturbance and diarrhœa. Everything was as unfavorable to recovery as could well be, in some cases there was no change of garments, no cleanliness, and very indifferent attention to their wants. The weather was remarkably fine, and the air was pure by day, but not always at night. The diet was execrable. The locality is entirely free from malaria. The cause was fecal contamination of the drinking water, as the miners or their families only were attacked who used this source out of four supplies.

The first case was Sally C. Mias, colored, age about twenty. She was seen on the second day of her illness. Pulse 120, temperature 103⅕°, on the third and fourth days it was 104⅘ and 104⅕°, it then declined to the tenth day and she made a rapid convalescence. The second case was her sister, aged twenty, on the second day of her illness the temperature was 104°, afterwards, for several days, 102° and 102½°. She was convalescent about the twelfth or fourteenth day. The treatment was light purgatives, once with calomel at the onset, afterwards digitalis and quinine in moderate doses only. These cases received proper attention respecting diet, cleanliness, etc.

The third case was very remarkable for the height and duration of the temperature. Levi Hudson, a colored miner, was seen on the third day of his illness. Pulse 115, temperature 104°. On the fourth day pulse 100, temperature 100⅕°. For the fifth, sixth and seventh days his pulse ranged from 85 to 90, and his temperature from 104° to 105½°; for the eighth, ninth and tenth days it was 103¾°, with very little change morning or evening; on the eleventh day it was 105⅕°, this increase of temperature was caused by badly cooked gruel; on the twelfth day it was 102⅗°, on which day he was moved sixty miles by railway and made a slow recovery. There was neither delirium or what could be called diarrhœa in this case, he had no change of garments, no sponging with water, he had pure air by day and as often at night as I could control it. The treatment was early purgation, once by calomel, digitalis afterwards. Quinine was given in very large doses without any success.

The fourth case was a young married lady, I saw her on the third day of her illness. Pulse 120, temperature 104°. On the fourth and fifth days pulse 115, temperature 103° to 105°. It gradually declined to the tenth day, at that time, pulse 94, temperature 100°. She then acted for two days with the greatest imprudence in every possible manner, and in her relapse for many days the pulse was 135 and the temperature from 104° to 105°. She made a slow recovery, having converted a mild type into a dangerous relapse. In this case there was diarrhœa and slight tympanites previous to the relapse and succeeding it. Mental disturbance scarcely existed. There was no sponging or change of linen in this case. The early treatment was digitalis, no calomel was administered.

I have seen a case of typhoid fever, in conjunction with Dr. Skillman, of Lexington, where the temperature was 105°, on the third day of the attack, at which time Miss C. was first seen. In this case death took place on the seventh day, with the temperature at 107° three hours before death, but every other symptom was of the gravest import, delirium, diarrhœa, tympanites, etc., and, whilst writing on this subject, I will state we attended two brothers of this young lady through most formidable attacks of typhoid fever, with high temperatures, and that the most heroic doses of quinine utterly failed to take any effect on it and from a large experience I have never seen it have the least effect.

In my practice previously I have seen many cases of typhoid fever, commencing on the third day with a temperature of 104°, which ran a mild course, and the statements of nosologists and hospital physicians are not guides for a country practitioner in typhoid fever.

FRACTURE OF AND UNION OF CLAVICLE WITHOUT THE KNOWLEDGE OF PATIENT OR FRIENDS.

By W. H. DeWitt, M.D., Mt. Auburn,
Cincinnati, O.

Mrs. S., some two weeks ago, brought her youngest child, a strong robust boy of four summers. She seemed quite reluctant at first about making the object of her visit known, fearing I might ridicule her for calling on a physician for so trivial a matter. She, however, informed me that in bathing the child the preceding day, she had noticed a small lump on the right shoulder she did not think quite natural. On stripping the child to the waist and examining the shoulder, I noticed a small elevation or prominence about midway between the two extremities of the clavicle, passing the finger gently over the parts I very readily detected the overlapping of the bones. They were evidently firmly united. Satisfying myself beyond a shadow of doubt that there had at some time been a fracture, I asked the mother if she was not aware that the bone had been broken. She answered in the negative, and seemed very greatly surprised at the revelation. She went on to state that some six months or more before the boy received a very hard fall, she remembered at that time of his complaining of his shoulder paining him, still further that he used the right arm very little and that whenever he was lifted by the arms he would cry out with pain. They thought nothing of this however, believing it to be nothing more than a severe bruising of the parts. Now it is altogether probable the fracture occurred at this time and through neglect of parents to examine the parts passed unobserved, and consequently without treatment. It is perhaps quite as well, for I am sure I never have seen a better result, even where the utmost care and skill were exercised.

I have reported this case simply to show how prone fractures are to unite, even under most unfavorable conditions or circumstances. In this case nothing was done, not even quiet enjoined, and yet we find results hardly attainable by the most careful surgical interference. *Surely*, dame nature is wonderfully apt, peculiarly prompt and ready for emergencies.

Selections.

MEDICINE.

Diseases of the Posterior Columns of the Cord in General Paralysis.—Westphal, in a paper published four years ago in the *Archiv f. Psych.* (vol. viii. p. 519), stated that in every case of general paralysis in which the gait is affected, and in which there is constant absence of the patellar reflex, there will always be found degeneration of the posterior columns of the cord, extending down to the lumbar region. In a later communication (*Berl. klin. Wochenschr.*, 1881, No. 1) he goes further, and asserts that this lesion may be safely predicted, even though the lower extremities show no motor or sensory symptoms, if only the patellar reflex is absent. The present paper (*Archiv f. Psych.* vol. xii. p. 772) consists of two cases which go to support this statement.

In the first case the gait was rather stiff and at times somewhat reeling, but there was no ataxia. There was a slight diminution in the sensibility of the limbs to pain. The patellar reflex was absent. Microscopical examination revealed degeneration of the posterior columns in their entire length. It is worthy of mention that in the fresh state granule-cells were found in the posterior part of the lateral columns, while after hardening in potassium bichromate and chromic acid no granule-cells were visible, and the lateral columns appeared quite normal. In the second case there were no sensory symptoms and the gait was not ataxic, but the patellar reflex was absent. There also the microscope showed degeneration of the posterior columns throughout their entire length.

Westphal observed that the degeneration was not everywhere equally intense. Thus in the cervical region there was in both these cases an area of well-marked degeneration bordering the median fissure; outside this there was an area of very slight degeneration; outside this again an area of intense degeneration, which was bounded externally by an area of slight degeneration. At the inner side of the posterior cornu, especially opposite its anterior portion, there was a strip of normal substance. As we pass downwards to the dorsal lumbar regions these distinctions become less and less distinct, and we have ultimately one area of intense degeneration (situated about the middle of the column), and another of slight degeneration. These areas are perhaps to be looked upon as indications of the existence of separate systems of fibres in the posterior columns, but the solution of this question Whestphal thinks must be decided primarily, not by pathologico-anatomical, but by developmental investigations.

The absence of ataxia in these cases of general paralysis with lesion of the posterior columns is thought to be due to the comparatively early death of the patient, the atrophy of the posterior columns and posterior roots not being sufficiently advanced to produce ataxia. Ataxia does not show itself unless a considerable number of the fibres of the posterior columns or roots have been destroyed.—*The Practitioner.*

Sulphur in Whooping-Cough.—Dr. Luton recommends in the treatment of whooping-cough, especially in the convulsive period, the administration of sulphur. Flowers of sulphur 8 to 15 grains, sugar of milk 16 grains. In ten powders, one every two hours, carbonate of iron should be given to keep up the strength, ten grains in the day. Coffee renders good service, and a vomitive should be given every two days. Belladonna, which has been considered the most afficacious remedy in this disease, has been given by Trousseau as follows:—Ext. belladonna four grains, syrup of poppies and simple syrup of each one ounce; one to eight tea-spoonsful to be given in the twenty-four hours, according to age. Dover's powder associated with extract of hemlock has been frequently given with the best results in the formula:—Dover's powder one grain, extract of hemlock in powder one grain, ginger in powder two grains, and sugar four grains, the whole to be given at bed-time, for a child of two years.—*Medical Press.*

Icterus Neonatorum.—Birch Hirschfield, in an article in Virchow's *Archiv*, an abstract of which appears in the London *Lancet*, gives the following as the pathology of that hitherto obscure disease: It is very difficult to avoid associating the jaundice in some way with the disturbance of the hepatic circulation on the transfer of its chief blood supply from the umbilical vein, especially when regard is had to the conspicuous congestion and œdema of the liver, well described by Weber, which occur in cases in which the circulation through the umbilical cord is interrupted before the respiratory movements, by their effect on the right heart, afford an adequate compensation. The vessels in the hilus of the liver are surrounded by a dense layer of connective tissue, which is continued into the organ along the branches of the portal vein, and in which there is venous obstruction in the liver, in consequence of hindered birth, this tissue is the seat of conspicuous oedema. A broad layer of gray pulpy tissue encloses the vessels, and is seen also around the umbilical vein in its diaphragmatic portion, and may also extend to the gall-bladder. The microscopical appearances of this tissue are those of oedema, with a more or less abundant accumulation of round cells in the interstices of the tissue. This swelling of the tissue must compress the bile-ducts obviously, and, not only under these circumstances are the bile-ducts distended, but there may be a positive difficulty in squeezing the bile out of the gall-bladder in the duodenum, and in the latter there is a manifest deficiency of bile. In such cases, in which death occurs during the first day of life, commencing icterus may be distinctly detected, and the gradual increase of the jaundice in connection with this pathological condition, may be observed in patients in whom life continues longer, as cases reported by Birch Hirschfield demonstrate.—*Chicago Med. Journal and Examiner.*

WESTPHAL ON THE KNEE-PHENOMENON.—(*Archiv für Psychiatrie*, vol. xii. part 3, May, 1882.)—Prof. Westphal relates three cases in which the knee-jerk would be produced by excitation of the skin over the patellar tendon.

1. A patient, aged 19, suffering from atrophic paralysis of the legs, suddenly showed the knee-jerk after it had been absent for some time. It was found, however, that exciting the skin produced a localized contraction of the extensors of the leg, or even of both legs. A more energetic excitation was followed by contraction in the flexors also. There was complete cutaneous anæsthesia; but the muscular excitability to direct percussion, previously present, disappeared when the skin-reflexes showed themselves.

2. Rapidly invading poliomyelitic paralysis of the four extremities. Percussion over the tendon is often followed by a contraction of the extensors; this contraction occurs at a notable interval of the excitation; the latter may be confined to the skin, which is not anæsthetic, as in the first case. It even once occurred before the blow had actually been delivered. These reactions suddenly disappeared after lasting some time.

3. Case of spondylites in the lower dorsal region. Here the ordinary knee-jerk was exaggerated. Excitation of the skin over the tendon on the left side produced a contraction also; but this contraction was longer in its production (half second) and ran a more protracted course. Exciting the skin at the malleolus was followed by contraction of the triceps extensor only, or of all the thigh muscles, according to the strength and repetition of the excitations. On the right side similar phenomena were observed, but not so regularly. Later, the retardation in the skin-reflexes was no longer noticed.—*The Practioner.*

SULPHUROUS ACID IN TUBERCULOSIS.—Some experiments by Frouchaner on the treatment of septicæmia by sulphurous acid, suggested to Catani the trial of this agent in phthisis, and his experiments are of interest, not only from this practical aspect, but also in connection with the discoveries of Koch. Phthisical patients were made to drink of water impregnated with it, and especially were made to breathe in closed rooms the air of which contained a considerable quantity. The experiments, continued for a considerable time, yielded the following conclusions: Most patients bear the long continued inhalation of sulphurous acid remarkably well: only during the few days, before they have become accustomed to it, do they complain. All the cases thus treated became free from fever in the course of a few days, and subsequently remained so. As far as could be ascertained, the local mischief showed no tendency to increase during the treatment, and the amount of expectoration became slighter. The observations are being continued in order to ascertain how far a permanent effect can be produced.—*Lancet.*

CEREBRAL LOCALIZATION.—Cha. Leegaard (*Nordiskt Medicinisk Arkiv;* Trettonde Bandet, Tredje Häftet, 1881) reports a case of embolic softening of the cortex of the right hemisphere, in which the symptoms were—first a sudden attack of paralysis of the left side of the face, with slight embarrassment of speech, paresis of the left arm, and almost inappreciable weakness of the leg. The paresis of the left arm and leg disappeared in eight days, that of the left side of face and continuing. A week afterwards the left paralysis of the leg disappeared, that of the face and arm continuing. Death occurred five weeks after the first seizure.

After death a yellow softening was found occupying the lower half of the ascending frontal and parietal convolutions, and the base of the third frontal convolution of the right hemisphere. The softening was limited to the cortex, and did not invade the centrum ovale. Besides this there was a minute focus of softening, the size of a pea, in the caudate nucleus of the right side.—D. Ferrier in *The Practitioner.*

SURGERY.

TEMPERAMENT, IDIOSYNCRASY, AND DIATHESIS IN RELATION TO SURGICAL DISEASES.—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F. R. C. S. (Continued from our last issue.)

The domain of Idiosyncrasy in respect to specific fevers is exceedingly important as regards both the physician and the surgeon, and I shall make no attempt to distinguish arbitrarily between their spheres in this matter. That which the surgeon is familiar with in the case of syphilis and those remote and exceptional consequences of measles, scarlatina, and small-pox which come under his care may be used to throw light upon the facts which fall under the observation of the position in the earlier stages of these latter maladies. There is probably no good reason for believing that the specific animal poisons can vary in their intensity beyond certain narrow limits. Different epidemics of scarlet fever and small-pox do unquestionably vary somewhat, but after all the limits of deviation from average intensity observed in different epidemics are as nothing compared with what we witness in different individuals attacked apparently under like circumstances. In the latter we see constantly that it is possible for two individuals infected from the same source and with the same virus, the one to show an eruption consisting only of a few spots almost unattended by fever, the other to develope a confluent or even a hemorrhagic exanthem, which will prove fatal in a few days. Is it possible to give any explanation of these individual differences, excepting by attributing them to individual peculiarities, and when these peculiarities rise to an extreme height, can we name them more conveniently than as idiosyncrasies? I will endeavor to illustrate the subject by facts which have come under my own personal cognizance. The portraits which I produce exhibit a gangrenous and ulcerative eruption which occurs in connection with varicella. They are, in fact, a peculiar form of varicella in which the eruption tends to persist and the individual vesicles ulcerate or become pustular. The evidence upon which I venture this unqualified assertion is I think, conclusive, for this eruption has been observed repeatedly with the history that in the first instance it was supposed to be chicken-pox, and whilst chicken-pox was in the family and in a few yet more definite cases, the surgeon who identified the gangrenous case was the witness at the same time of varicelli in its ordinary mild form in the patient's brothers and sisters. These facts have fallen under the observation not of myself alone, but of many others, and they receive important incidental corroboration from several narratives published long ago, and without full perception of the interpretation of the facts. My present object is to cite them simply in proof of the possible influence of idiosyncrasy in modifying the course of an exanthem. The case to which the portrait which I next show belongs was that of an infant to all appearance in perfect health, who had several brothers and sisters all healthy, who had all been vaccinated at the usual time with the usual results. In this child, however, vaccination was followed on the seventh day by a general eruption on the skin, which on the tenth day looked like ordinary small-pox, which subsequently became gangrenous, and caused death at the end of a fortnight. The state of the child's skin at the time of its death is well shown in the portraits. It will be seen to be covered by spots and patches of gangrene, the sphacelus involving the whole thickness of the skin. There is no form of variola known which in the least resembles this condition, and none will suggest, I think, that diagnosis. On the other hand, there is a well-known eruption, usually slight and mild, but occasionally very definite, which occurs after vaccination, to which term vaccinia exanthem is appropriate. My suggestion is that this eruption bears the same relation to the ordinarily mild vaccinia rash which gangrenous varicella does to the common type of chicken-pox, and that its exceptional severity is due to individual idiosyncrasy.

I show next another portrait from a similar case which was observed by Mr. William Stokes, in Dublin, to whose kindness I am indebted for the portrait. The general facts were similar to those in my own case, with the difference that the eruption occurred a day or two earlier after vaccination, that the patches of gangrene were more irregular, and more superficial, and that the child survived. I do not know that any other examples of gangrenous vaccinia have as yet been published, but I have no doubt that such will in the future be observed. I have related some extreme instances illustrating the influence of idiosyncrasy in causing severity of exanthems which are usually very mild. Probably there are quite striking examples of the converse, instances in which the specific animal poisons pass through the system and produce little or no obvious effect. It may be that these are much more common, and that they go far to explain some of the great apparent irregularities in the course of the exanthemata. We often meet with individuals who tell us that they have never had scarlet fever or measles for instance, although they were exposed in childhood at the same time that their brothers and sisters suffered; and we often see these diseases go through a family and leave one or more children apparently untouched. Still oftener will it happen that one or several individuals under such circumstances will show only a very slight febrile ailment, without any of the more characteristic symptoms of the disease, whilst others suffer severely. It has happened to me recently to witness a family epidemic of scarlatina which remarkably illustrates what I want to say. In mentioning its details, let it not be supposed that I think that it illustrates anything unusual; on the contrary, I believe that similar occurences fall very frequently within the experience of those engaged in general practice. My facts are briefly these: A child was affected with sore throat and feverishness, but had no rash whatever, and beyond a slight fur no change in the condition of the tongue. She was well in a day or two, and nothing subsequently occurred to her. Four days later another sickened with exactly similar symptoms, but more marked, and in her the usual rash of scarlatina soon appeared; a little boy went through the same course of events; both of these observed precisely the same period as regards the progress of the disease; both had nose-bleeding on same day, followed by rheumatism beginning in the same joints, the wrists, and both had great swelling of the cervical lymphatic glands. Subsequently an older sister, who was believed to have had it some years ago, went through a rather sharp attack. Thus, I take it, there can be no doubt that the disease in this instance was scarlet fever; but to prevent any question on that score I may add that one of the patients was seen by Dr. Gee. It is to what I have next to state that the chief interest attaches. The child who was the first ill, and who had but a day's sore throat, no tongue affection, no rash, no peeling, was subsequently most fully exposed to the risk of infection, and did not take it, conclusively proving, I think, that the trivial illness she experienced was the fully-developed malady so far as her idiosyncrasy permitted it to show itself. But I have other facts yet more curious. Almost the whole family, and it was a large one, suffered one after the other, during the two or three weeks that the disease was in the house, from sore throats and a day or two of feverishness. Several of them had never had scarlet fever before, and as to some others, it was doubtful. In all the cervical lymphatic swelled more or less, but in no instance was there the slightest peeling or any sort of sequela. I have to add that, when the first child had sore throat, I was told that the family of a cottager living at a short distance from the house had just been suffering from similar throats. This cottager was the milkman, and apart from this fact, there had been personal communication between the two houses. On inquiring at this, I found that the father, mother, and two grown-up daughters had all in succession had sore throats, attended with a day or two of rather sharp febrile illness, but in no single instance had any rash been observed, nor had any peeling of the skin followed. They were not known to have had scarlet fever on any former occasion, and laughed at the suggestion that what they now had was it. It may be that after all it was not, but the dates fitted well with the possibility that the first of the children affected had got the contagion from this source. The inferences which I wish to draw from such narratives as this is that it is possible for the individual peculiarity which may be hereditary and may affect many individuals in the same family—to so far modify and minify the course of an exanthematic fever as to make its recognition quite impossible; that we ought to seek for the explanation of these remarkable differences, amounting in many instances to almost total suppression, not in difference in the degree of epidemic virulence, nor in the hygienic surroundings, nor in anything which can properly be called the state of health of the patient, but in that of which we can give no other explanation than that it must rank as an idiosyncrasy. It is needless to point out what a pittfall of fallacy is here opened for the feet of the investigator. How easily may we find ourselves attributing to influences which were wholly inoperative results which must simply be put aside as those which we ought to expect under the known laws of idiosyncrasy. I will leave for the present the examination of those laws as they influence the course of another specific fever. This is the time at which I ought properly to mention the facts which in the case of the specific fever known as syphilis illustrate its extreme inequality of incidence in different persons. I must not, however, enter into any details, and I leave them aside the more willingly because the facts to which I refer are matters of universal knowledge. We all know how differently chancres behave in different persons; how they may become phagedænic or sloughing without our being able to assign any cause for the difference. We know, also, that the syphilitic rash in many cases is wholly omitted, together with the rest of the train of secondary phenomena. We know also how, when secondary symptoms do appear, how infinitely variable they may be in form and in severity. A roseola, a lichen, a psoriasis, a rupia, an eruption indistinguishable from variola —such are a few of the forms which we frequently see. Impressed by these startling differences, good observers, have tried to make out that there are different kinds of virus, but all the facts are in opposition to such hypotheses. I must content myself by suggesting that they are due to inherent differences in the individuals who receive the virus, and must pass on to other topics. Let me next remark that, not only is the sphere of individual peculiarity almost unbounded in its power of modifying the force of the primary outbreak of an exanthem, but that it exercises a great influence in determining who shall and who shall not suffer from complications and sequelæ. Upon this latter term I am alluding rather to what may be called accidental sequelæ; the inflammation of various organs and parts which occur exceptionally and at some little distance of time, and which often bring the patient under the care of the surgeon. The peeling of the skin, and possibly also the nephritic desquamation which follows scarlatina, and are sometimes classed as sequelæ, are really parts of the primary disease. As I think my narrative has conclusively shown peeling of the skin is not a sequel of scarlet fever *per se*, but of one of the symptoms of scarlet fever, namely, of dermatitis, to which it is the necessary consequence. Inflammations of the ears, and of the bones or joints, stand, however, in a different category, and so does the ophthalmia tarsi, which often follows measles, and the pruriginous affections of the skin which are not infrequent after both vaccinia and varicella. When these events occur probably not by any means as necessary parts of the disease, but rather as revealing idiosyncrasies in the individual. Inflammations of the ear and allied affections may possibly in some instances reveal diathesis rather than idiosyncrasy. That is, it may be that they occur because the patient is distinctly scrofulous, or the subject of some other form of recognized ill-health. Even as regards them, however, I much doubt whether this is always true, and respecting the affections of the skin to which I have referred, I am sure that they often occur to those who are in good health, and that they are proof of idiosyncrasy only. Variability in the degree of irritability of the skin is common and proceed to great lengths. Flea-bites, woolen clothing, nettle-stings, and the like, produce on different persons extremely different results. Urticaria is a form of dermatitis of which probably but few persons are susceptible, and in those in whom it occurs it demonstrates or reveals this susceptibility and nothing more. The patient who gets nettle-rash whenever he eats lobster may yet be able to digest lobster with as little inconvenience as other people. It is his skin, or perhaps the nerves of his skin in which the susceptibility alone lies. In this suggestion rests, so far as I can see, the real explanation of the maladies which have been grouped together under the name of prurigo. There is no one disease to which the name is applicable. What we see is the power of various sources of local irritation in provoking pruriginous dermatitis in those in whom idiosyncratic susceptibility exists. Now it is the presence of pediculi; in others cases of fleas; in yet others the presence of an exanthem, such as varicella, which is the starting-point; whilst in all, the morbid condition, once initiated, is kept up by the patient's unwise efforts to relieve it, and by the mere fact of its having got possession. I repeat, there is no such disease as prurigo—a malady which has been described by a high authority as if it were self-existent, alike causeless, and cureless, but there are plenty of persons born with that peculiar irritability of skin in which a variety of causes may evoke the symptoms to which the name has been given.

We may probably with much confidence place diphtheria and erysipelas side by side as diseases, or rather type forms of the inflammatory processes which obey parallel laws. Probably no human being is exempt from the liability to them, but at the same time it seems certain that the degree of proneness varies very much in different individuals, is persistent through life. prevails in families and is a matter of inheritance. Thus, then, we attest for both the existence not infrequently of a sort of constitutional predisposition which the terms diathesis, or even in some instances, that of idiosyncrasy, is applicable. Both may become contagious, and of both exposure to direct contagion is probably by far the most efficient mode of production. Many persons will take them by contagion in whom other causes would have proved abortive. But both are capable of spontaneous origin and, to speak more correctly, may be produced by exposure to certain non-specific influences, such as the ordinary causes of catarrh injuries, sewer gas, and some others. It is most important that all who value accurate classifications should deny both as regards erysipelas and diphtheria their right to rank with those fevers which are due to specific animal poisons. With these as it seems to me, neither of them has any real affinities. In both, I repeat, it is a personal and inherited peculiarity, giving proclivity when certain exciting causes are brought to bear to peculiar forms of inflammatory action with which we have to deal. In both the disease is probably local at its origin; in both it spreads locally, and the contagion of continuity of tissue and with both constitutional symptoms result which are in some ratio with the extent and severity of the local action. Neither of them in the least protects the individual from future attacks; indeed, although in each, single attacks are common enough, yet it is generally acknowledged that those who have suffered once are more prone than others to suffer again, and in both there are not infrequent instances of proclivity lasting through many years. In erysipelas the essential feature is a spreading inflammation of lymphatic spaces in the skin producing gout œdema, and usually great dilatation and enlargement of blood vessels. In diphtheria we have a spreading inflammation of a mucous membrane attended by œdema, great dilatation of blood-vessels, and the formation, in greater or less quantities, of a fibrinous pellicle.

Although I mention skin as the seat of the one and mucous membrane of the other, let it be distinctly understood that these are only the most usual sites; both may attack cellular tissue or wounds, and each may occassionally affect the usual territory of the other. There may be some doubt as to how, when these inflammations affect repeatedly the same individual, the fact should be explained. It may be that one attack leaves a really increased to a second, or it may be that the first simply revealed a proclivity which had existed all along, and of which the later ones are merely the manifestations without addition. Probably both explanations are true. It is, I presume, not necessary that I should produce before this audience any citation of evidence in proof that a personal liability to erysipelas and diphtheria may be witnessed. All are familiar with them.

It is probable that there are some slightly marked affinities with the diseases just named and such maladies as carbuncles, and boils, and acne. Respecting all these, we have the same questions to ask, how far are they dependant upon constitutional causes? and, how far upon those which are local? We may take it as certain that in all there is a double causation, and our task is to assign in each instance the relative share of each. In the first place, we may say that the liability to acne, to boils, to carbuncles, is often a family matter, and is seen to occur with unusual frequency in relatives. It is often also a personal matter, as is proved by its persistence or recurrence at various periods of life. Further, the association of these maladies with more or less temporary disturbances of health, with diabetic dyspepsia, with constipation and defective tone, is a matter of constant observation. Whoever has reflected, however, as to the real value of carbuncular inflammation will, I think, see reason to believe that its peculiarities are to a large extent local ones. Respecting both boils and carbuncles, it is the fact that the most efficient measures of treatment are those which appeal to the local condition. This is true of all the different measures in repute, however dissimilar at first sight it may appear. Some have for their object the protection of the inflamed area from further irritation, as when we cover up a boil or commencing carbuncle with leather plaster, others, the subdual of the inflammation by means of cold and the like, as when we use an ice-bladder or a strong spirit and lotion. Nor do those who adopt a time-honored practice of an early, free incision depart from this principle, for their object is still the mitigation of local inflammation by the relief of tension, and by permitting the escape of contaminating matter. From acne, impetigo, and ecthyma to boils is in many cases a matter of degree, and that there is little or no real distinction between a large boil and a small carbuncle, all will, I think admit. The age of the patient, and his special dietetic condition at the time, and place, and the influence of different modes of local treatment, are the conditions which determine the final result. If a boil occur in an elderly person, on the nape of the neck, where it is likely to be irritated by the shirt-collar, and especially if, instead of being systematically protected from the first, it be further bullied by premature squeezing and the like, it is very likely to pass on into a carbuncle. I claim the strong testimony which has been borne by Sir James Paget and others to the efficiency of simply protective measures in preventing the development of small carbuncles, and obviating the supposed necessity for incision, as proof that local spreading is, in the main, due to local causes, and has no necessary connection with the general health. In other words, it is not a thing which is inevitable. On the other hand, we know of no internal remedy which possesses any marked power in arresting carbuncular inflammation. If now we ask, in what does the peculiarity of carbuncular inflammation consist? In what does a carbuncle differ from a boil? I should be inclined to reply that it is solely in this tendency to spread. The spreading is effected by contagion of continuity, and it has certain marked resemblance to what we observe in erysipelas. A carbuncle might almost be defined to be an erysipelatous boil with the proviso that the expression is not intended to imply identity of inflammatory type, but only close similarity. Throughout its whole course, and however extensive it may be, carbuncle in combination with its erysipelatous method of spreading retains the characteristics of the furuncular process. Its secretions and its core, or slough, are exactly like those of a boil, excepting that they are much more abundant. In a general way there appears to be a natural tendency independent of treatment to the arrest of the process, and this is generally observed in erysipelas. In other words, erysipelatous inflammation is more intensely infective than is carbuncular. I must, however, qualify even this admission of difference by reminding you that carbuncular inflammation has such an injurious influence on health and in all cases in which its spread continues in spite of treatment that the patient quickly dies. Thus many cases occur in which no proof is given of tendency to arrest as there is in phlegmonous erysipelas.

I fear I am wandering rather far from the subject of diathesis, but my argument, if I have succeeded in making it clear, is this: that there exists a certain state of tissues and constitutions different in each instance, which gives proclivity erysipelas, to boils, and carbuncle, and that while the importance, the almost paramount importance in many instance of local influences in exciting and aggravating the diathesis in the background must not be forgotten. Further I have argued that carbuncle is the result of a sort of combination of the erysipelatous and furuncular types of inflammation. I feel sure that these views as to pathology will be found to fit well with therapeutics. Tetanus is a malady so rare, that if we admit its possible spontaneous production without regard to previously existing proclivity, we must not expect to find many instances in proof that the latter sometimes exist. Yet there are such, and possibly if looked for more than we might suppose. The influence of race is proved by the great liability both of infants and adults amongst the negroes, and also of certain animals. I have met with a few cases in English practice of what appeared to imply that there might be an inherited proclivity to tetanus. A man who looked quite well walked into my room as an outpatient at the Metropolitan Free Hospital and gave me his own diagnosis by declaring "I am going to have lockjaw." I found that he recently had a slight wound on one hand, and that he was beginning to feel some stiffness of his jaws. His symptoms, however, were exceedingly slight, and his anxiety was caused by the fact that his father had died of tetanus. The poor fellow's forebodings were rapidly realized, and he died within a week.

Here, however, for the present, gentlemen, I must take leave of the subject of idiosyncrasy. I have endeavored to claim for this form of individual peculiarities a much wider sphere of influence than is usually accorded to them. It is necessary, I am well aware, that one should exercise some scepticism in accepting doctrines of the kind I have brought before you. To fall back on the suggestion of an idiosyncrasy is so easy that it may easily become the resort of intellectual sloth. We must not, however, be deterred by this consideration from the acceptance of such doctrines if they are true. That they are so within certain limits, I cannot doubt, and the problem before us is to find those limits. If we begin to recognize, or if we forget the all-obedient influences of idiosyncrasy, we shall not only waste much time in processes of clinical research, but we shall be in constant danger of coming to wrong conclusions by declining to accept evidence as to causes which is really sound, and of adopting false principles in reference to treatment. In every example of curious and unexpected form of disease, our minds should, I think, first ask the question, "How much of this may possibly be due to the individual peculiarities of its subject?" We are often on a wrong tack if we seek to make external influences explain the whole.

Let me add in conclusion, and it seems to me of great practical moment, that the individual peculiarities of all patients should be made intelligently acquainted with them. There are few of us without our idiosyncrasies and their variety is innumerable. If it should become the custom to record some sort of life history in permanent form from the birth or infancy onwards, all the peculiarities in an individual as the result of medical observation, not only would much be done in the way of preventing subsequent errors in treatment, but valuable contributions would be made as to a knowledge of the real nature of many diseases. It is not only as regards the prescription of many drugs that a knowledge of our patient's peculiarities becomes important to us in practice, but the advice we have to give in respect to places of residence, mode of life, and of general management are often of far more importance than the medicine prescribed, and its wisdom or the reverse may depend on the knowledge or the ignorance of the individual peculiarities, and those peculiarities frequently do not display themselves in any of the symptoms, and can be recognized and revealed only by a correctly-kept life history.—*The Medical Press.*

AMPUTATION IN SENILE GANGRENE.—Nelson C. Dobson, F.R.C.S. Eng., Surgeon to the Bristol General Hospital, reports the following in the *British Medical Journal:*

With reference to amputation in senile gangrene, nearly all authorities agree that it is not wise to undertake the operation; it therefore requires some courage and some convictions to justify any surgeon in advocating a course which is in opposition to generally received opinion. The case which I shall presently narrate, and in which I amputated with the most gratifying success, with other cases I have seen, must afford my justification for the line of treatment I consider advisable under certain circumstances in cases of senile gangrene. It is true that, from time to time, surgeons have recommended amputation, and notably the late Mr. James, of Exeter; but, even when they have done so, it does not appear that any very precise directions have been given for the guidance of those who may wish to follow such recommendation. For my own part, I should not for one moment wish it to be understood that an indiscriminate amputation is to be adopted in all cases of senile gangrene; that, given any case of spontaneous gangrene occurring in old people, therefore or necessarily the treatment is to be amputation. On the contrary, I believe the greatest discrimination must be exercised in selecting the proper case for amputation. I will presently endeavor to state under what circumstances I consider amputation in senile gangrene to be necessary; but I would here remark that I believe the antiseptic method of treating amputation in these old people is just sufficient, in consequence of preventing suppuration and a prolonged call upon their enfeebled nutritive powers, to turn the scale in favor of amputation. Two remarkable instances of this have recently come under my own observation. The history of one of these cases is as follows:

W.G., aged 62, a farm-laborer, always living in the country, was admitted into the Bristol General Hospital under my care on November 19th, 1881. Though not strictly aged, yet he was old—old, that is, in his appearance and the signs of degeneration, especially of his arterial system, as might be seen and felt in his superficial arteries. His heart was free from valvular disease, but feeble in action. He was thin and somewhat shrunken, but had always been temperate; and his kidneys were free from disease. He had suffered a good deal from exposure during the previous severe winter. About three weeks before admission, he had noticed a slight dark spot on the fourth toe of the right foot; soon his little toe of the same foot became similarly affected. Two toes of his left foot also showed signs of failing circulation in them. On admission, the two smaller toes of the right foot were distinctly gangrenous, with no attempt at demarcation. The foot was also swollen and red. The toes themselves were black, dry, and shriveled. He suffered considerable pain. Both feet and legs were enveloped in cotton-wool, and elevated on pillows. He was put on a generous diet, with four ounces of brandy; iron and quinine, with cod-liver oil; and opium to relieve the pain. The pulse was 80, regular. The radial arteries were atheromatous and tortuous. No pulsation could be felt in either anterior or posterior tibial, nor in the popliteal artery, though pulsation could be traced in the femoral to the bottom of Hunter's canal.

November 22d. A line was beginning to form on the fourth toe, but also a fresh one on the third toe. The darkness of the left foot had almost disappeared.

December 9th. The patient had severe diarrhœa, with febrile disturbance, a dry tongue, and a temperature varying from 103° in the evening to 99° in the morning. Pulse from 112 to 96, and irregular. The gangrene had spread somewhat up the outer side of the foot. The parts were dressed with iodoform and boracic lint.

December 20th. The toes were distinctly separated, and the bone was just nipped through. The gangrene seemed to have halted, as it had done once or twice before, but soon spread again with renewed activity; and from this point it spread vigorously, soon involving the outer side of the foot and dorsum, going up the leg, and accompanied by redness, œdema, and marked inflammatory conditions locally; whilst the smell was most offensive. This was controlled, though not entirely subdued, by iodoform. Things went on from bad to worse until, on January 9th, when I had not seen him for two or three days, I found the gangrene had extended to three inches above his ankle. He was extremely feeble, quite unconscious, with a low muttering delirium. He could not be roused, and apparently he was moribund. However, as he could swallow, I ordered his brandy to be increased, and gave him sulphuric ether. I discussed the question of amputation; but it seemed so hopeless that I did not do it. Next day, he was no worse; and, feeling sure that he was being poisoned by the offensive products of his own grangrenous limb, and that he could not live more than a few hours if left to himself, I determined to give him what appeared to be the forlorn hope of amputation. Ether was administered as an anæsthetic, and I removed his thigh by the circular method at the lower third, with antiseptic precautions. The femoral artery was patent at the point of section, and was secured by catgut ligature. He had twelve ounces of brandy in the next twelve hours. In the evening, his pulse was 75, and his temperature 96·5°. Next day (January 11th), his temperature had fallen as low as 95°, but at 12 a.m. it registered 96°. I need not detail his case further. On the 16th, six days after the operation, all the stitches were removed. The stump had healed; but there was a small dark patch, as large as the little finger-nail, which I believe to have been caused by the thinness of flap at this point. This had existed since the operation. However, it remained aseptic throughout, and gradually separated without extending. This fact is worth mentioning, as showing the behavior of a small slough under antiseptic precautions. He is now practically well, though I did not allow him to get up before the 27th, seventeen days after the operation. It was singular to notice how quickly (after his recovery from the shock of the operation) his delirium and other symptoms of septic absorption left him. His delirium disappeared on the second day, although for days before he had been drowsy, delirious, and even comatose, at times.

Such is the history of the case. I feel that his life was literally saved by the operation; he could not possibly have lived for twenty-four hours unless something was done for him by amputation. He was dying of septic absorption—poisoned by his own decomposing tissues. I confess I looked upon the operation as a somewhat forlorn one; but, taking the view I did of his symptoms, and that he must inevitably die if left himself, I determined to amputate, feeling sure that gangrene would not recur in the stump, as I could feel the femoral artery patent at the point of operation; and that, if he survived the shock of the operation, he might recover. But there was just the point, that he might have already received such a dose of septic material that he might not survive this. There can be no question that, even when the circulation of the blood in a gangrenous limb is completely stopped, and when clots have already formed in both arteries and veins, the sphacelated part may act as a source of infection. Kussmaul's experiments show that absorption of substances into a gangrenous part takes place. He injected iodide of potassium under the skin of a gangrenous limb, and found evidence of it in the urine four hours afterwards. Charcot, than whom none can have had a larger experience of diseases of the aged, says: "It cannot be doubted that putrid substances from sphacelated parts may themselves penetrate into the circulating current." He has frequently observed this in cases of spontaneous gangrene, the result of atheromatous obliteration of the chief arterial trunks.

On one other occasion, I removed the thigh at the lower third in a patient aged 68, for spreading senile gangrene. He lived a month, but broke down from bed-sores at the end of that time, with signs of feeble reparative processes in the flaps; and eventually died of pyæmia. In this case, the femoral was blocked at the seat of ligature. I have now no doubt in my own mind that, had I treated this patient antiseptically, and taken all the precautions that I did in my last case, I should have pulled him through also.

There is now in the hospital a remarkable case, which my colleague Mr. Lansdown has kindly permitted me to mention, in which he amputated just below the knee in an old broken-down albuminuric man, aged 72, for spreading senile gangrene, and where the stump has already healed.

These cases alone would be sufficient to show that the powers of repair even in the very aged are, when carefully husbanded, sufficient to heal even large amputation-wounds. This point is clear. I feel now that I delayed amputation too long in my last case. I say this, even though the result was successful. In similar cases, I should in the future amputate much earlier. Even one life saved, as this man's was, is a distinct triumph of our art. I would thus formulate what I have to say with reference to amputation in senile gangrene.

1. I would not amputate in those cases where the patient's strength was fairly good, where there was a fair prospect that a line of demarcation would be formed, where he was not suffering great pain, or where the pain was readily controlled by small doses of opium, and where symptoms of septic absorption were absent.

2. I would advise amputation in all those cases where the patient was not extremely aged—*i.e.*, over seventy-five or seventy-six—in which the pain was very severe, the gangrene rapidly spreading, and in which marked symptoms of putrid poisoning were manifesting themselves; and I would amputate irrespectively of the patency or otherwise of the main artery at the spot selected for amputation—preferring, of course, patency.

3. In cases of amputation under such conditions as I have mentioned, I would amputate above the knee for gangrene of the leg, above the elbow for gangrene of the hand or forearm. Even when the main artery is blocked, the collateral circulation is generally sufficient to carry on the nutrition of a comparatively short stump. This is my reason for a comparatively high amputation. The mere fact of the possibility of rapid healing of a large stump in even very old persons is a sufficiently well established fact in surgery to need comment. The point I would further insist on is that, with antiseptic precautions, there is usually a minimum stress laid upon the powers of repair, which is especially useful in dealing with such cases as those we are now considering. I may further add, that my colleague Mr. Coe has long advocated views similar to those put forward in this paper, and has had several successful cases.

THE TREATMENT OF EPILEPSY BY LIGATURE OF THE VERTEBRAL ARTERIES.—By William Alexander, M. D., F. R. C. S., visiting surgeon to the Liverpool Workhouse Hospital.

On November 19th, 1881, I published in the *Medical Times and Gazette* three cases of epilepsy where ligature of the left vertebral artery was followed by a cessation of the epileptic fits. The first case has made a voyage to Calcutta and back. he is now engaged in a permanent situation in Liverpool, and up to the preseent time has had no relapse. The idiot boy is still in the epileptic ward and constantly under observation, and Williams is in hospital with a swollen limb; neither of these two have had any fits. I think we may take it for granted that the collateral circulation has been established *in these cases* during the ten months that have elapsed since the operation, and that the cure promises to be permanent.

In my paper published in the same journal on March 11th, 1882, I reported five cases in detail Nicholas M., the slobbering, howling idjot, has had up to May 31st only one fit since last seen.

He has had two fits altogether since the second operation, which was performed on December 28th. This child has not a comfortable home. He lives in a very neglected state, and in consequence I should not have been surprised had a complete relapse taken place. It is satisfactory to note that the improvement has persisted in spite of surrounding circumstances. My second case Margaret O'D., was sent back to Dingle Mount, as she had no home to go to. Dr. Irwine informed me a short time ago, that about the end of March she got into a terrible temper with some of the other epileptics, and had some kind of fits. Since that time she has been free. The right vertebral was tied on December 31st. During the year 1881, and previous to ligature she had on an average twenty-four fits each month. Two or three fits of some kind after a paroxysm of anger in five months is surely a wonderful improvement. Only one artery was tied, so that should a relapse take place, the resources of surgery are not yet exhausted.

CASE 3.—George H. cannot be found. Mr. Maguire, the superintendent of relief, has caused inquiries to be made for him, but without any effect. He promised to come back and report himself, and to return to hospital if the fits recurred. I think we have much reason to take for granted that the fits are not incapacitating him from work at least, or he would have turned up again.

CASE 4.—Mary S. is still at Dingle Mount. She had some fits before going there, and it was proposed to tie the opposite vertebral. This she declined, because she thought the fits were leaving her. Dr. Irvine wanted her to come back, but she likes the Epileptic Home so much that she would prefer to have a valid excuse for remaining there all her days. I do not think much improvement has resulted in this case by the ligature of a single vessel.

CASE 5.—The imbecile girl upon whom I operated on February 2nd had her fits reduced from 48·5 per month, the average of the previous year, to an average of eleven per month since the operation. Even these are very much lighter. On May 2nd I tied the left vertebral artery. During the remainder of the month she has had three regular epileptic fits and several attacks of epileptiform twitchings. Her mental condition has improved to some extent, but as the imbecility has continued for ten years, and was the result of a fall, it is not likely to be benefitted much by the dimunition of the epilepsy. She can, however, now walk about the ward between two attendants, and astonishes them by the apt remarks she makes. These remarks cannot be elicited by questioning. She will sometimes reply to the nurse and talk with the other patients, but to questions of the medical staff she only replies by a stony stare and complete silence. This case can only show the effects of the most hopeless of all patients.

I lost a little idiot girl through septic pleurisy aften after the operation. She was a hopeless idiot, who tore off the dressings and opened up the wound with her fingers during the momentary absence of the nurse on two occasions. It is the only death from the effects of the operation that has occured amongst my operations for epilepsy at the Liverpool Workhouse.

I have five more cases at the Liverpool Workhouse on whom I have operated, but too recently for me to say more than they promise well, and are out of danger.

On nine other cases I have operated on in conjunction with Dr. MacDonnel. They are all under his observation, and will, no doubt, be published by him when the results are so tested by time as to become valuable.

Remarks.—I have little to add to my former papers as to the mode of performance of the operation. A linear incision commencing opposite the lower end and on the outer side of the external jugular vein, and about one inch above the clavicle, is carried upwards for three inches along the external border of the sternal mastoid. The layers of fascia are cut through, to the same extent, until the fatty tissue over the anterior scalenus is reached. With the finger the sulcus between the anterior scalenus and the sixth cervical vertebra reached by judicious teasing with a strong blunt probe or director. The artery will be generally easily found, provided no veins are injured. If the vessel is not found there, it will be found running up to the inner side. The sterno-mastoid and the external and internal jugular veins should be well protected and retracted by good retractors during the operation. I generally use the spray during the operation, but I am often compelled to stop it for a little if the wound is deep or the artery difficult to find. I insert a drainage tube with a flange outside like that of a tracheotomy tube before the wound is closed, then stitch up the wound, and lay over it a sponge that has been steeped in carbolic acid for twenty-four hours. Over this a dressing of gauze is laid that has been steeped in carbolic acid for twenty-four hours. Over this a dressing of gauze is laid that covers the neck and shoulders. This is retained in position by an elastic bandage. The sponge exercises pressure upon the sides of the deep wound and promotes drainage. The dressing is not changed for three days, when a piece of oiled lint and cotton wool is substituted for the more expensive dressing. No blood is lost during the performance of the operation if it is performed deliberately and skilfully. The danger to life is very small.

The Utility of the Operation.—In the twenty-one cases here alluded to, three have been quite well for nearly a year. Nine others have been so free from fits, and for such a space of time, that it may be said a cure has resulted, or is likely to result; and eight have improved in so many respects, or are improving so steadily, that the operation would be justifiable were no better results ever obtained. The case of one who died in a fit two months after his discharge from hospital, was an accident such as occasionally occurs in all epileptic establishments. The state of his kidneys was rather surprising, and has caused me to examine the urine in all cases before operating. The diminution of the fits after operation, makes me doubt whether the renal disease had any influence on their production.

I now think that ligature of the vertebral arteries is to take its place as a recognized operation for the cure of epilepsy, when other means, such as the removal of peripheral causes of irritated nerve centres by drugs, have failed.

The difficulties of the operation does not involve any important structures. The danger to the patient's life is very small, and should the operation fail to relieve the fits, the patient is in no respect worse off than before. No instance of any deformity or disability on the part of the patient has, as yet, been noticed by me or reported to me by any one.

To afford reasonable hopes of success, the epilepsy must not be allowed to become too chronic. It should, therefore, be performed as soon as it becomes evident that drugs have no curative effect, but that they only diminish the fits by temporarily paralyzing the nerve centres. In some of the very chronic cases improvement may yet progress, or how far it may yet retrogress.

Before performing the operation, every external irritating cause should be, as far as possible, removed, This cannot always be done, Nor is it necessary, provided it be not one that by its nature or severity is the sole cause of the epilepsy. When the sensibility of the epileptic nerve centre or centres is reduced, that cause will have no more effect in producing fits than it has in any other healthy non-epileptic individual. The retroflexed uterus was too powerful an exciting cause, either from its nature or extent, to allow the quieted nerve centres to rest.

It may be said, that had the retroflexed uterus been brought into place, the ligature of the vertebrals might have been unnecessary. Perhaps so. I have, however, a case on hand where the operations were performed in the reverse order. The straightening of the uterus did not cause the fits to cease, but the ligature of the vertebrals promises to do so.

Where the exciting causes of epilepsy are cerebral, and are accompanied or alternating with uncontrollable anger or maniacal excitement, the effects of operation are not so apparent or so permanent. In the case of Alice Green and Wm. Foran, the imperfect success probably depends on cerebral excitement, and the same cause will, I fear, render the operation useless in another case now under my care. The exciting causes are in these cases so powerful and so uncontrollable, that the stimulation of the epileptic centres soon restores the blood supply, on the principle that *ubi stimulus ibi flux*.

In old standing cases of chronic epilepsy the operation mitigates the disease, and I am inclined to think may ultimately the fits. In my last case, where the paralyzed arm gained its power, the effect upon the cord must have been decided, and was unmistakable. The fits have returned in diminished number and severity; whether the fits will continue to diminish owing to a gradual improvement in the epileptic region, or whether the fits will resume their normal frequency and severity, and the paralysis return, are questions of much interest that time alone can enable us to answer.

A point that I have been led to consider of great importance in the after-treatment, is to turn the patients out of hospital as soon as the wounds have healed. When the fits show signs of recurrence after operation, ice-bags to the spine are valuable. The exercise of the patient's faculties and limbs, promotes the more even distribution of blood through the body. I have had the best results with those patients who could at once go home to the comforts and variety of home-life. With the exception of the idiot boy, I have had the worst results with those who had no friends, and whose only refuge was the epileptic wards. The indolent objectless life promotes sensual irritations and digestive disturbances, prolific causes of spinal and cerebral congestion, that probably upset, in a very short time, all benefit from operation. These are supposed to be the exciting causes of epilepsy. I am more inclined to consider them in many cases the results of the lazy life to which hopeless epileptics are doomed. Epileptics are no more subject to these errors than others who lead a similar enervating and caged life. For these reasons I am afraid that removal of the sexual organ in the male or female will rarely succeed in curing a disease that does not depend on those organs, but that may, and no doubt often is, aggravated by their excessive or depraved functional activity. When epileptics are confined, gastric desires and other excitements are their only pleasures, and the prevalence of these in epileptic wards has caused the opinion to be formed that (instead of these being a result of confinement and laziness, and the absence of healthy mental and physical occupation) they are the cause of the epilepsy.

As to the theory of epilepsy upon which the operation rests, I have nothing to add to my former papers. The epileptic centres may be rendered hypersensitive through some powerful shock. The circulation, is in many cases, restored to the normal, and the hyper-excitability is shown by only one fit, or a series of fits. In other cases the hyper-sensibility exists, but only produces epileptic attacks in consequence of peripheral excitement caused by worms, gastric or sexual disturbances, or of the cerebral irritation produced by anger. That we can influence for good the nutrition of the medulla, and of the upper, or even the lower, part of the spinal cord by ligature of the vertebral arteries, a paper of mine in the contemporary number of the *Liverpool Medico-Chirurgical Journal* incontestably proves. That paper should be read in connection with this one, and is supplemental to it.

Lately I have always ligatured both arteries, so that the effect may be as great as possible, and that all that can be done at once. The risk is not any greater, and my experience shows that the effect is greater, and more likely to be permanent. It would be premature to enter more fully into my theories of epilepsy, as modified by my operative experience of it. I have, therefore, contented myself with giving, at the request of Dr. Hughlings-Jackson, a synopsis of the results of this new operation up to the present time.—*Brain*.

ADENOID VEGETATIONS OF THE NASO-PHARYNX.

—By E. Cresswell Baber, M.B.Lond., *in British Medical Journal*:

I propose to make a few practical remarks on adenoid vegetations of the naso-pharynx, a subject which, although it has been carefully studied by specialists, both of the throat and of the ear, has, from its comparatively recent discovery, attracted very little attention amongst the profession at large—at least, in this country. The merit of first accurately describing this affection is due to my friend Dr. L. Meyer of Copenhagen, who, in his monograph published in the *Archiv für Ohrenheilkunde*, and in a paper in the fifty-third volume of the *Medico-Chirurgical Transactions* (1870), has given an exhaustive account of the pathology, diagnosis, and treatment of these growths. A copious literature, almost entirely from the pens of continental authors, has followed Meyer's original work, and has culminated in the elaborate discussion on the subject at the recent International Congress. My own interest in the matter dates from the year 1874, when, being on a visit to Copenhagen, Dr. Meyer kindly showed me the first case in which he had operated for the removal of these growths. During the last two and a half years my attention has been more particularly drawn to them, and I have found that they are by no means of rare occurrence in this country.

Pathology.—The pathology of the disease is simply a hypertrophy of the adenoid tissue, occupying the posterior wall and roof of the naso-pharynx ("pharyngeal tonsil"), giving rise to soft tumours of varying shape and size projecting into that cavity. Two chief forms are recognized by Meyer, viz., the *cristate* and the *cylindrical.* The former, which in my experience are the most common, occupy the posterior wall near the roof of the naso-pharynx. The latter are found on the sides of the cavity, and are probably unconnected with the pharyngeal tonsil. Hypertrophy of the pharyngeal tonsil also often assumes the character of a soft elastic cushion on the posterior wall, with a surface of more or less uneven character. The structure of the vegetations, as their name indicates, is that of adenoid or lymphatic tissue, containing a large number of blood-vessels.

Etiology.—With regard to the etiology of these growths, little definite is known. They may, according to Woakes, be congenital, and the influence of heredity as a cause is insisted on by Meyer. He also mentions as occasional causes colds, measles, and local irritation (such as occurs in cleft palate). In several of my cases, the accompanying deafness was attributed to scarlatina; and it is quite possible that the hypertrophy of the adenoid tissue may have been due to the same cause. On the other hand, as Meyer suggests, the presence of adenoid vegetations may be an additional element of danger to the ears during an attack of measles or scarlatina.

Symptoms.—The symptoms of the disease are very characteristic, and when once seen in a well marked case, can hardly fail to be recognized again. They are due chiefly to the mechanical obstruction of the naso-pharynx. In severe cases in which the cavity is completely occluded (or almost so), nasal respiration being impossible, the mouth is kept constantly open, and the nose from disuse, except in scrofulous cases, assumes a pinched and wasted appearance. A most important symptom is what Meyer terms a "dead" pronunciation, *i.e.*, there is a want of resonance about the voice, which causes the patient in well marked cases to pronounce *m* and *n* as *b* and *d*, saying "cobbod" for "common", "rig" for ring", "ted" for "ten", etc. The speech, in fact, resembles, at a superficial glance, that met with during a bad cold; and, unless the attention be alive to these cases, the symptoms are easily attributed to a chronic cold. In slighter cases, the defect of speech is, of course, less marked, and consists in a want of clearness about the voice, owing to a partial blocking up of the naso-pharyngeal cavity with growths. The patency of the mouth during the night gives rise to dryness of the throat on waking, and the patient often suffers from headache. He also has a thick tenacious discharge running down behind the soft palate, which is said to be occasionally tinged with blood. Epistrxis sometimes occurs from the soft character of the growths. A deformity of the chest-walls from the obstruction to respiration has been described by Lœwenberg. The most important complication of this disease, which I have left until the last, is undoubtedly the effections of the organ of hearing, which are present in a large proportion of the cases. Deafness was present in the great majority of the cases which have been under my care. It can easily be imagined that the adenoid growths interfere with the patency of the Eustachian tubes, not only by the mechanical obstruction to nasal respiration, but also by the chronically inflamed condition of the surrounding mucous membrane which attends them. The affections of the ear vary from the most transitory form of middle ear catarrh, to acute or chronic suppurative inflammation of the tympanum, in which more or less extensive destruction of tissue takes place. It is universally agreed that adenoid growths are more common in childhood and adolescence than in adult life. In my own cases, the age ranged from six to nineteen or twenty years. The "dead" speech, the parted lips, and perhaps wasted nose, which together lend a characteristic vacant expression to the face, having thus led us to suspect the presence of these growths, the diagnosis has to be made certain by physical examination. For this purpose, two methods are available, viz., palpation and posterior rhinoscopy.

Palpation, i.e., the exploration of the naso-pharynx with the finger, is the method most universally applicable, and can be carried out without any special practice on the part either of the surgeon or of the patient. The patient being seated, the physician stands to one side of him, and, steadying the vertex of his head with one hand, passes the forefinger of the opposite hand (preferably the left, on account of its smaller size) rapidly to the posterior wall of the pharynx, and up behind the soft palate to the roof of the naso-pharynx. A few lateral movements will then give a very fair idea of the state of the walls of that cavity, and of the nature, size, and situation of growths which may be present. The sensation to the finger in a marked case has been well described as that of a bunch of worms. The whole manœuvre must be rapidly and gently executed, as it is disagreeable to the patient, and may easily produce vomiting. If any growths be present, the contact of the finger usually causes them to bleed. In children and refractory patients, it is well to guard the first phalanx of the forefinger with an India-rubber ring; and the finger may, I have found, with advantage be lubricated with a mixture of glycerine and water. After palpation has been repeatedly practised, the sensibility of the parts becomes blunted. The size of the naso-pharynx from before backwards, which can be ascertained by palpation, is, I consider, an important element in the case; for, if the antero-posterior diameter be small (*i.e.*, if the septum nasi extend far backwards), a smaller amount of growths will suffice to interfere with nasal respiration than would otherwise be the case.

Posterior Rhinoscopy, unlike the preceding, cannot always be practised, and necessitates some skill on the part of the surgeon, and tractability on that of the patient. It is useful for watching the clearance of the cavity in operative removal of the growths; but in severe cases, as in the one related below, the growths so entirely fill the cavity, that the posterior nares are at *first* quite invisible.

In these cases, examination of the fauces with a tongue-depressor in the usual manner may show the tonsils enlarged, or the lower pharynx in a state of granular pharyngitis, but often the lower pharynx appears merely congested, and perhaps slightly swollen.

Treatment.—From the very rare occurrence of these growths in adults, it is generally agreed that they have a tendency to disappear spontaneously in adult life; and did they do so without having previously giving rise to any serious mischief, there would be no object in removing them. The serious affections, however, of the organ of hearing, not to mention the obstruction to nasal respiration predisposing the patients to lung-affections, pharyngitis, deformity of the chest-walls, etc., render it advisable that, when the growths impede free respiration through the nose, their removal should be accomplished before they have done any irreparable damage. Constitutional remedies directed against any existing diathesis may be employed; but they are not, as far as I am aware, of any avail in reducing the tumors. Local treatment is best commenced by the systematic syringing of the nasal passages from the front with a saline solution; and in mild cases, the growths waste by this treatment alone if perseveringly carried out. When the naso-pharynx is almost filled with growths, the fluid cannot of course return by the opposite nostril until they are cleared away. More marked cases require operative removal of the vegetations, which may be done either through the mouth or through the nostrils. The former is the method now almost universally employed, but removal by a ring-shaped knife introduced through the nostrils is the method originally recommended by Meyer, and the one which he still employs. Through the mouth the growths may be removed in slighter cases by scraping with the finger-nail, or with a suitably curved scraper, of which several forms have been invented.[1] In more marked instances removal may be effected by forceps introduced through the mouth, such as Catti's or Lœwenberg's. Still another method remains to be mentioned, and that is the galvano-cautery, with which the growths may be burnt off. In my own practice I have hitherto employed either scraping with the finger-nail, or removal with Catti's forceps, or with the galvano-cautery. The latter has appeared to me more painful than the forceps, and without any corresponding advantage; it is useful, however, in certain cases. If the growths are to be removed without an anæsthetic with forceps, the patient must be prepared to give half-a-dozen sittings, more or less, according to the case. Removal under anæsthetic has the great advantage, that the naso-pharynx can be cleared out at one sitting. It has been practiced to a considerable extent by Dr. Woakes in this country, and is to be recommended in nervous patients, and where, as sometimes happens, the parts are exceedingly sensitive, even to the introduction of the the finger. A certain amount of care is required to prevent the blood from running into the larynx during the anæsthesia. Many surgeons follow up the operative removal of these growths by repeated cauterizations of the naso-pharynx with solid nitrate of silver, in order, by destroying all traces of the vegetations, to prevent any recurrence. For my own part, I am more inclined to follow Lœweinberg's plan, *i.e.*, to remove sufficient of the growths to allow unimpeded nasal respiration, and to free the Eustachian tubes, and not to employ the caustic. Before removing adenoid growths the tonsils, if much enlarged, should be excised, and the patency of the nasal cavities ascertained by anterior rhinoscopy.[2] After they are removed it is usually necessary, in order to overcome the habit of sleeping with the mouth open, to make the patient wear a bandage under his chin at night to keep his mouth closed, or else to let him use one of Guye's contra-respirators. The aural complications of course require suitable treatment, which need not be described here.

ANTISEPTIC PROPERTIES OF OXYGENATED WATER.—At the Hospital St. Louis M. Peau has been making experiments on the antiseptic properties of oxygenated water. This water was specially prepared, and contained from two to twelve times its volume of oxygen. Externally, the liquid was used in the dressing of large wounds and ulcerations of every kind, and having given good results it was used as the only dressing after major operations, such as amputations of the arm, leg, and thigh, and in the ablation of large tumors. During the operation a spray of the same liquid was playing on the wounds. Under the influence of these applications the wounds showed a favorable tendency to unite by first intention, and in the case of chronic ulcers cicatrization was observed to be effected more rapidly than with any other dressing. At the same time to patients who had been treated by other means, and who were threatened with septicæmia the oxygen water was given internally with the most salutary results. M. Peau believes that this agent is superior to phenic acid, and it has also the advantage of being devoid of any obnoxious odor, nor does it possess any toxic properties.—*Medical Press.*

COMPARATIVE EFFICACY OF CARBOLIZED OIL AND CARBOLIZED WATER.—Every disinfectant remedy in order that the full extent of its operation may be arrived at, must come into contact with all parts of the object, so far at least, as it is accessible to the infectious germs. Secondly, it must, without exception, permeate the names of micro-organisms in sufficient quantity to cause their destruction. With regard to the former of these propositions, it would be supposed theoretically that an aqueous solution of carbolic acid would be more suitable than a solution in oil, since a large number of objects to which the agent is applied in practice are water-containing bodies which would be more readily penetrated by water than by oil. There is, however, another point to be considered. Since carbolic acid is as freely soluble in oil as in water one might accept this theoretical reasoning and believe that a sufficient disinfection is attained by the solution in oil, on the ground that the acid contained in the oil would be given up by the oil to the water contained in the bodies to which it is applied. Upon this point, experiments have been made, by bringing into contact, with or without an intervening membrane, at one time an aqueous solution of the acid with olive oil, and at another time a solution in oil with distilled water, and the invariable result was that the oil extracted the carbolic acid from the water to a much greater extent than the water took it from the oil; a result which is in accordance with the fact that the solubility of carbolic acid in oil is almost unlimited, whilst in water it is only in the ratio of one to twenty.

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[1] Compare Victor Lange, *Monatschrift für Ohrenheilkunde*, Feb., 1880, and C. H. Golding-Bird, *Guy's Hospital Report*, vol. xxv.

[2] A good test for this I have found to be the possibility of seeing the movements of the palatal muscles during deglutition, by a strong light thrown through the anterior nares.

When these experiments are taken into consideration in connection with the second proposition enunciated above, which is an absolute essential of a disinfectant agent, we meet with the physiochemical view which Koch has determined to be a well grounded fact, namely that carbolized oil falls much behind carbolized water in disinfectant properties. As a practical result, we are warned that in the use of carbolized acid, while it is an energetic disinfectant, agent, the applicability of carbolized oil to surgical and obstetrical practice is, to say the least, questionable.—Dr. Georg v. Knorre (Mitteilung a. d. Kaiserlichen Gesundheitsamte, 1881) in *Deutsche Medizinal-Zeitung.* J.M.F.

A Marvel of Surgery.—Dr. Roswell Park writes from Prague: I have had the pleasure of a rather extended interview with a patient whose larynx and epiglottis Prof. Gussenbauer removed over two years ago. Six weeks after the operation, he began to wear part of the artificial larynx, and, after accustoming himself to this, he gradually learned how to introduce and use the reed which takes the place of the vocal cords. This apparatus was made for him by Rothe, who has also done some work for the Reese Hospital. The patient is a riding teacher, is reputed the best rider in Prague, is busy from morning to night, talking all day, and suffers not the slightest inconvenience or pain. His voice is, of course, very monotonous, but his enunciation is excellent, his speech perfectly intelligible, and he eats and drinks with perfect facility. Three intralaryngeal operations had been previously made, before Gussenbauer attempted his feat. This case is said to be the best living example of what the art of the surgeon and the mechanician can accomplish for such a terrible disease as cancer of the larynx.—*British Medical Journal.*

Origin of Scrofulous White Swelling.—At the meeting of the Societe de Chirurgie, M. Launelongue made a communication upon the character and origin of white swelling, called scrofulous. He showed that the tubercle was the commencement of all the lesions attributed to this affection. The elements that formed the fungous growths were specific, for they were inoculable. He succeeded in inoculating eight rabbits with the morbid element, thus tuberculous and scrofulous arthritis should no longer be described separately, as there exists but one form, namely, the tuberculous. As to the different parts of the articulation affected with tubercle, M. Launelongue believed that the cartilage was wholly exempt, although such was not the general opinion, the synovial was frequently the first to be affected, but it was in the bone in general that the first sign of the disease manifested itself. The alteration in the bone was either circumscribed or diffuse in which case the whole epiphysis was implicated. The disease afterwards invaded the synovial, and soon the other epiphysis became attacked. In the latent state when the synovial is but slightly affected, and the epiphysis barely sensitive, it would be rash to interfere, for the exact position of the lesion is not known; rest with a fixed position of the limb and good nourishment is all that would be necessary. If the membrane be attached, a good compression on the igni-puncture, with perhaps interstitial injections of tincture of iodine or iodoform will give good results. When there is an abscess it must be opened at once; and the tubercle carefully sought for and taken away by scraping, gouging, or resection, partial or total when necessary. M. Verneuil agreed in general with the statement of M. Launelongue, but he believed there was a third variety of the disease in question, which he observed in the adult, and which could be attributed to the presence of tubercle or inflammation. The form he alluded to resembled a well developed hydrarthrosis with a sense of fluctuation, but without any sign of inflammation or osseous lesion of any kind. Cure is effected by fixing the limb, compression, and application of iodine.—*Medical Press.*

Diagnosis of Vesical Calculus.—Volkmann's investigations (*Centralblatt f. Chir.*, No. 11) on the diagnosis of stone in children is of importance to the general practitioner as well as to the surgeon especially interested in the treatment of these cases. He states that the rectal bimanual examination for stone is of great value. The patient is thoroughly placed under the influence of an anæsthetic until the abdominal muscles are completely relaxed. The bladder is to be empty or but slightly distended; two fingers of the left hand are to be carried as high up into the rectum as possible; the right hand presses upon the abdomen above the symphysis pubis and forces the bladder down towards the rectum until both hands meet. In this way even small calculi can be readily detected, but it needs considerable practice and experience to determine the size of the stone. Volkmann finding at first that the stone turned out to be larger on extraction than he had expected on examination, although distinctly feeling it between his fingers. The best way to determine the size is to lift it up on the os pubis and hold it there; this Volkmann has done in his last four cases, the last stone which he palpated in this manner being as large as a chestnut. —*Boston Med. and Surg. Journal.*

Mr. Thomson's Case of Ligature of the Innominate.—The patient whose innominate Mr. Thomson, of the Richmond Hospital, Dublin, tied some weeks ago for subclavian aneurism succumbed in consequence of repeated secondary hemmorrhages. He had lived forty-two days after the operation, the longest known period save one during which a patient has survived such an operation.

We understand that, at the post-mortem examination, the artery was found to have been ulcerated at the seat of the ligature. The condition of the aneurism as regards consolidation and cure has not yet been ascertained.—*Medical Press.*

THE French journals, under the title of a "curious phenomenon, describes a flageolet player who charmed all his hearers by his musical performances at the recent fair held at Neuilly, an environ of Paris. He had formerly suffered from an attack of diphtheria. Tracheotomy was performed, and the silver tube which was introduced at the time of the operation, and kept stationary by means of a circular pad, now serves the musician of Neuilly as a natural aperture through which he breathes, and so successfully, that his flageolet playing was enthusiastically applauded by all present.—*Brit. Med. Jour.*

SYPHILIS.—IRON WITH MERCURY.—By giving iron along with mercury, full doses of the latter may be given to very broken-down subjects without fear. My own individual experience has been that while I use mercury very freely in syphilis, no case of salivation or other mercurial trouble has occurred since iron has been systematically given with the mercury.—*Fothergill in Aids to Rational Therapeutics.*—

GLYCERINE IN PHTHISIS.—Dr. Jaccoud, editor of the *Dictionnaire de Médecine et de Chirurgie*, prescribes in common phthisis, where cod-liver oil is not borne, glycerine with a certain amount of rum or brandy. Glycerine one ounce, rum or cognac two drachms, peppermint one drop, a teaspoonful three or four times a day. This composition of an agreeable flavour is well tolerated by the stomach, and excites the digestive functions.—*Medical Press.*

OBSTETRICS.

THE DIAGNOSIS AND TREATMENT OF CHRONIC INFLAMMATION OF THE OVARY.—Lawson Tait, F.R.C.S., Surgeon to the Birmingham Hospital for Women, contributes the following to the *British Medical Journal*:

The diagnosis of pelvic diseases may be said to have received its first real life from Simpson; for, before his day, no such attention was given to these affections as deserved the name of systematic study. He it was who instituted precise means of physical diagnosis, and upon that he reared methods of treatment which have made a lasting impression on our practice. Like all innovations, Simpson's methods led, even in his own hands, but mostly in those of his friends and followers, to an excess of zeal; and the mechanical school of gynecology, of which he was unquestionably the founder, led many to the belief that, armed with a sound, a speculum, a caustic-stick, and some new-fangled pessary, the practitioner could subdue all the pelvic ailments of women. All these aids, valuable in their way, had their enthusiastic supporters, were declaimed against by others, did an infinite amount of mischief in their turn, and have, finally, been referred to more limited and less hurtful fields of practice.

From the same phase of surgical development arose a number of operative proceedings, each of which has extended our means of relieving human suffering, but each of which went through a course of rough experimentalisation which is now terrible to look back upon. Simpson found that division of the cervix relieved the sufferings in certain cases of dysmenorrhœa, and enabled a few sterile women to become pregnant. Immediately, we had a flood of hysterotomes all over the world, and every sufferer had her cervix divided. Thousands of wholly unnecessary operations of this kind were, and many still are, performed, and not a few deaths occurred from the practice.

Coincident with this innovation, we had the employment of pessaries, fortunately a less hurtful practice, but carried to an extent of uselessness which is positively amusing; and other illustrations of similar strivings in the dark might be given.

From the writings of Dr. Henry Bennet and Dr. Tilt, especially the latter, another new departure was derived; for attention was directed by these authors to the possibility of the ovaries being the seat of the troubles, relief from which was sought in the treatment of the uterus.

Still another impetus, and the greatest of all, in my opinion, was given to gynæcology by Dr. Thomas Keith, who taught us that our traditional fear of the peritoneum was only a bugbear, and that it would serve us as well as any other part of the body if dealt with fairly. After Mr. Spencer Wells had gone on for twenty years operating on hundreds of cases of ovarian tumor, with a mortality of about twenty-five per cent., Dr. Keith persuaded us that ovariotomy could be done with less than six per cent. of deaths. The mortality of Dr. Keith's and my own is now as low as three per cent., and this after we have both tried the so-called antiseptic system of Lister, and have given it up as more dangerous than useful.

The outcome of such splendid work in the removal of ovarian tumors will soon be felt in very many ways, but in one it has already given evidence of another and altogether new direction for abdominal surgery. As long as Mr. Spencer Well's example ruled our practice, and as long as his high death-rate was the best we could get, we operated on ovarian tumors only when they threatened life, and we delayed the case by mischievous tappings as long as we could. We felt that we were not justified in opening the abdomen for conditions whose severity did not threaten life. Now, however, when the removal of an ovarian tumor is fatal only when the patient has been tapped, or the operation injudiciously delayed, we are justified in performing abdominal section, not merely for the saving of life, but for the relief of suffering.

This new practice has had many good results, not the least of which is, that it is shedding a whole flood of light on the pathology of pelvic disease, and is even helping us to understand the physiology of the female sexual organs. Thus my own practice, the details of which will shortly appear in a special work, has convinced me that the usually accepted doctrine of the coincidence of ovulation and menstruation is wholly erroneous. The ovaries have nothing to do with menstruation; and though I give the opinion with a qualification which may be made necessary by further experience, so far the evidence before me is convincing that the phenomena of menstruation depend upon the Fallopian tubes and not upon the ovaries. Finally, and of most importance for my present purpose, we are for the first time becoming cognizant of the real conditions involved in the disease recognized as chronic inflammation of the ovaries. For such a purpose as this, an abdominal section has been well said to be of as much value as a post-mortem examination; I would say it is more valuable, for we have the recent and exact clinical record side by side with the morbid appearances.

We all know that, in its healthy state, the ovary is just like the kidney—it is an organ of the existence of which the owner is profoundly ignorant. Unless it become diseased, it gives no sensations which indicate its existence. But, when diseased, no organ of the body gives such discomfort; and its diseases are often fatal, this result being by no means confined to cystoma.

Acute inflammation of the ovaries is often fatal; and, when not fatal, it generally leads to a state which makes lifelong misery. Though I have seen cases in which no history of an acute stage could be obtained, yet, like the same disease in other organs, chronic inflammation of the ovaries generally begins in the acute form.

The origin of the acute disease is various. It may be in a simple chill, in a hæmatocele, in an attack of gonorrhœa, in some exanthematic fever, or in miscarriage or childbed. The last two sources are by far the most common, and they present two specific varieties of the disease—interstitial oöphoritis and peri-oöphoritis.

Many of the cases of acute oöphoritis undoubtedly recover, and leave no mischief behind; but, in others, the permanent mischief gives rise to suffering which to men is fortunately inappreciable. Most patients will fix a date, from which they have never known what it is to be well. A woman who has had acute exanthematic oöphoritis, with permanent mischief, will say that, since she had the small-pox, scarlet fever, or acute rheumatism, she has never had her periods as she used to have them. For a time, they were more profuse than before; then they became scanty and painful, the pain increasing as time went on, lasting a week, or even two or three weeks, in every month, rendering her utterly miserable, and being relieved by nothing but narcotics. We examine the pelvis, and find, perhaps, nothing at all. We give her iron and tonics, and all sorts of drugs, and she is no better. She goes to one specialist, and he divides her cervix or amputates it, without relief; to another, who puts in a galvanic stem; to another, who applies some useless pessary; and so on, all in vain. If she marry she does not become pregnant. If she be in the better ranks of life, rest and luxury, with constant change of scene, make her life endurable; but, if she be the wife of an artisan, her lot is one long unhappiness till the climacteric period is passed; and, during that period of trial, many of these women become drunkards.

Cases of chronic disease arising from acute peri-oöphoritis give usually more specific indications, at least to one accustomed to pelvic examinations. Suppose that it has arisen in some attack during the puerperal month, the patient will say that she was ill with "inflammation of the bowels," and was a long time in getting about; that she has never been pregnant since, and is hardly ever free from pain. The majority of these cases occur in primiparous women; and therefore the first feature in the case to be noticed is often that the patient has had one child soon after marriage and has never again become pregnant. If the patient be living a married life and bearing children, that alone is proof that she is not the victim of this disease, for it uniformly unsexes the sufferer as far as maternity is concerned. It also unsexes its victims for marital life in all severe cases, for they cannot endure it; and in the milder cases they cannot get well, as long as they have to submit to it.

As far as general symptoms are concerned, they are rarely free from pain; and this is generally intensified during the menstrual week, for the reason that the tubes are always involved. In most of the cases, the tubes are chiefly at fault; for I often find the ovaries cystic or shrivelled, so as to be of little account in explaining the symptoms. There is always pain in the left side in the groin; for, if one ovary be affected, it is sure to be the left. In the exanthematic cases, we have to trust almost entirely to the story of the patient as to subjective symptoms; and therefore, in this class of cases, mistakes will be made until we arrive at a more perfect method of diagnosis. In the second class of cases, however, the objective conditions are easily recognized by the practiced finger. A fixed and tender mass, composed of the enlarged and probably adherent ovary, or of the occluded and distended tube, will be felt on one or both sides of the uterus through the vaginal *cul-de-sac;* and the peculiar sickening pain felt by the patient when the mass is touched will afford conclusive proof as to its nature.

What is to be done to relieve such cases? The general principles of treatment are those applicable to all such conditions, in whatever part of the body they are met with. The first of all is rest; but, unfortunately we cannot rest the ovaries or the Fallopian tubes. The former will go on trying to fulfil their function of ovulation; and every month, or oftener, the inflamed organs are temporarily congested by the occurrence of menstruation. Much may be done, however, by absolute rest in bed for the whole menstrual week, and absolute abstinence from intercourse. It is very rare, however, that we can persuade patients to carry out this regimen long enough; and hospital patients will not attend to it at all—indeed, they cannot. Counterirritation by blisters or setons is also to be tried. The only drugs of the slightest use are bromide of potassium and ergot.

After a persistent trial of these without benefit, there remains for consideration the question of removal of the diseased organs—a proceeding which is based on the soundest and most completely accepted rules of surgery. Let us take a perfectly parallel case. From some injury or gonorrhœal infection, an eye becomes acutely inflamed, and the acute process is followed by intractable chronic inflammation of the structures of the globe—a matter of every day occurrence. The ophthalmic surgeon removes the diseased organ, to save the patient's discomfort, perhaps the sight of the other eye, perhaps his life. He mutilates the patient most seriously in that part of the body where mutilation is most dreaded. He removes a diseased and useless structure. We remove inflamed and useless ovaries and tubes to relieve suffering, in some cases to save life; and we do not mutilate our patients half so seriously as is done in the removal of an eye. The removal of a diseased eye often fails to save the other, and is then an useless operation. Removal of a cancerous eyeball is always an useless operation, for the disease always returns.

Removal of the inflamed uterine appendages may yet turn out to be a failure for some cases; but it never can be so bad as the removal of an eyeball for cancer; and, in the hands of experienced operators, the operations have quite an equal risk. Besides this, the operation for the removal of the uterine appendages is as yet in its infancy; we have very much to learn about it; yet, in spite of this, in my hands, of thirty-five cases performed for chronic inflammation, there has only been one death, or a mortality of 2.85 per cent.—a mortality which, I have some reason to believe, is less than that of excision of the eyeball. This one death was due to causes entirely preventable, and ought not to have occurred. The operation is justified by its primary success; and my belief is that my mortality, as my experience grows, will not be more than one or two per cent.

Against the operation, various *à priori* arguments have been brought. The first of these is, that it unsexes the patient. This is a perfectly needless argument, because the disease for which the operation is done has already accomplished this, as it has rendered her barren, and has made sexual intercourse a burden which she ought not to be called upon to bear. It has been said that removal of the uterine appendages destroys sexual desire; but the uniform testimony of such patients as have given evidence is that it has no such effect. But, suppose it did, what nature can any man have who would refuse to his wife relief from suffering, because it would interfere with the gratification of his lust? I am surprised that such an argument has been seriously advanced.

It has further been alleged that useless operations will be performed. Until our powers are perfect, this is very likely. But of what operation in surgery can this be denied? Have we not heard of lithotomies being performed where there was no stone—of amputations carried out where there was no disease in the joint? How many thousands of people have been cut for squint, when what they wanted was a pair of proper lenses?

As a matter of fact, I have found that the mere serious discussion of the operation with a humbugging patient will lead to a diagnosis. If her sufferings be real, she will jump at the chance of relief; if they be not, she declines to take the risk of the operation.

But such an operation as this demands the justification of ultimate success; and here we are on the most difficult ground. The most recent summary of cases is to be found in the second volume of Agnew's Surgery, just published, in which 171 cases are tabulated, the work of forty operators, with a mortality of 19 per cent. This is quite a satisfactory explanation of the opposition with which the operation has been met. I should long since have condemned the proceeding, and have discontinued my practice, if my mortality had been 10 per cent. In fact, I did cease to operate for five years, because my mortality was 20 per cent. Of the forty operators in this table, there are only three who have operated on fifteen or more cases for all causes, not only chronic oöphoritis. These are:

Hegar	42	7 deaths.
Battey	15	3 "
Lawson Tait	30	4 "
	87	14, or 16.6 per ct.

Increased experience, therefore, brings better primary results; and this is more than ever visible, if my whole experience is taken of seventy-five cases with only six deaths, or 8 per cent. In my recent experience of 61 cases, there have been only 3 deaths, or 5 per cent.; and confining it to the cases of chronic oöphoritis of 35 cases, there is only one death, or 2.85 per cent. It is clearly, therefore, an operation which can be justified by its primary success only in the hands of a surgeon who has large and constant practice in abdominal surgery; and, when it is done by a large number of operators in twos and threes, it can only meet with speedy and well marked condemnation.

Precisely the same kind of argument applies to its secondary results, which, in the hands of inexperienced operators, are admittedly bad. For my own results so far, I have abundant cause for satisfaction; some of my cases are yet incompletely relieved, but by far the majority of them are absolutely cured. The first patient from whom I removed an ovary for pain, nine years and a half ago, was completely relieved of her symptoms, and she remains so to this day.

I cannot burden this paper, already too long, with the recital of cases, but two I shall give as samples of what may be done by this operation; and I select them only because, having been promptly cured themselves, they have ever since been actively engaged in helping to cure others as surgical nurses. One of them is now attached to my own private staff, and has materially assisted in the recovery and cure of many of her suffering sisters.

G. B., aged 24, when placed under my care by Dr. Hammond of Nuneaton, had enjoyed perfectly good health until she was seventeen years old. At that time she had some kind of low fever, the nature of which she did not know, and no history of it could be obtained. During its progress, she suffered greatly from pelvic pain, and was nine months in getting better, but practically she had never been well since. She had never been free from pain in the back and in both groins, the pain running down both thighs, and being greatly intensified just before and during each menstrual period. She had had a great variety of treatments, the general view being that there was some displacement of the womb. Several operations had been performed, and she wore pessaries for some months. The result of all this was, that she steadily grew worse, and for three years before being placed under my care she had been a helpless cripple.

Her general appearance was that of good health; in fact, she was distinctly robust in appearance, Her menstruation was regular, but scanty, seldom lasting more than two or three days; and during that time she described the pain as being agonizing, and those who had watched her saw no reason to doubt her words. My diagnosis in this case was that of cirrhotic oöphoritis, the result of acute inflammation of the exanthematic variety. I proposed to remove the glands; but, when the whole features of the proposal were explained to her, she promptly declined to submit to it, and left the hospital. In October, however, she voluntarily returned, and begged me to operate. I complied with her request upon October 15th, and found the ovaries small, atrophied, and adherent. They afforded, in fact, typical examples of the changes effected in the glands by this disease. The tubes were also adherent, small, and atrophied. The removal of the appendages was difficult, as it nearly always is in such cases. She made a rapid recovery, and left the hospital early in November. She did not menstruate till the end of April, 1880, and at that time declared herself greatly improved. I lost sight of her till the 8th of September, 1881, when she came to show herself as a perfect cure. She had been for nine months, and is now, engaged as a surgical nurse in a large general hospital, is perfectly fit for her arduous duties, and says she is in perfect health. She menstruates occasionally, but entirely without pain.

J. W., aged 24, began to menstruate at 13, and was regular and free from pain till she was 19. Then she had an acute illness, and ever afterwards suffered intense pain for two days before and during the whole of her periods. The amount of loss became very profuse. She was admitted to Leicester Infirmary, and was there for many months, and obtained considerable relief, the treatment being to a large extent local, by pessaries, etc. After this she went out to service, but had to leave every situation on account of being wholly unfit for work for the greater part of the month. She was treated in several medical institutions, but obtained no permanent relief, and ended by becoming an outdoor pauper. She was sent to me in July, 1880, when I found the ovaries large and tender, and fixed down behind the uterus. I removed them and the tubes on July 18th, the operation being a very difficult one. The glands were both cystic, and the tubes occluded and distended. She recovered speedily, and in a few weeks entered upon her duties as a nurse. These she has fulfilled, under my directions, ever since, save in an interval, during which she had an attack of scarlet fever. She has never menstruated since, and has remained perfectly free from pain. She is constantly engaged in nursing abdominal sections, and is one of the best nurses I have on my staff.

OPHTHALMOLOGY—OTOLOGY.

Typhoid Fever in Relation to Disease of the Optic Disc.—Robert P. Oglesby, Ophthalmic and Aural Surgeon to the Leeds General Infirmary, writes in the *Practitioner* as follows:

It is now many years since my attention was first aroused to the knowledge that patients, having suffered from typhoid fever with cerebral complication, had material diminution of vision shortly after convalescence. I have never yet met with any case of disc mischief after typhoid fever when the patient had passed through the disease without prominent meningitis (cerebral).

The condition of the disc is somewhat curious, for although inflammatory mischief is undoubtedly present, yet it does not take the shape of an ordinary neuritis. If I may so term it, I should say a subacute neuritis in which effusion was sufficiently pronounced to render diagnosis between health and disease a certainty, yet of so slight a character as to deceive any but the most practiced in the use of the ophthalmoscope. Exceptions to this condition are sometimes met with.

Unlike an ordinary form of disc mischief following inflammation of the meninges, the visual defect is not noticed until long after the health of the patient is restored. The discs (for as a rule both discs are affected) present an unusual appearance, having a peculiar tint of redness difficult to describe, bordering on a brown, or we might say a brown-red. If considerable attention is paid to the distribution of the retinal vessels, it will be found that the arteries have an appearance of health, but the veins carry too much blood, and in many cases are decidedly tortuous, The contour of the disc is, as a rule, unaltered. and quite distinct even from the sequela of a slight neuritis, or even from a mild form of neuro-retinitis; yet vision is sadly defective, and in many cases ends in the cancelling of important engagements, and not infrequently causes the ruin of those who depend on perfect vision to earn their daily bread.

The majority of patients suffering from typhoid amblyopia present objective symptoms indicative of acute kidney mischief, and in many cases I used, and before making ophthalmoscopic examinations, to express a very decided opinion as to "Bright's disease" being the cause of the defective vision. As a rule, patients suffering from typhoid amblyopia, have a decided and well-marked appearance of cellular dropsy (facial), with the ordinary pallor peculiar to cases of kidney disturbance. After repeated examination of all cases I have seen (with but one exception) have I failed to detect albumen in the urine.

In this case I was associated with my late colleague, Dr. Chadwick, and my present colleague, Mr. Teale. The case, a typical one of typhoid fever, very early showed marked failure of vision; the urine frequently examined was albuminous. and the ophthalmoscope disclosed effusion into one disc and an abnormal condition of the other. The effusion, although distinct, did not present any typical feature of a model neuritis, although approaching to it more than in any other case I have yet seen. It may be well to state that this is the only case in which I have had occasion to use the ophthalmoscope in an acute stage of the disease. The patient is now living, and has been examined by me from time to time during the twelve years since the disease attacked him. For many months after convalescence no appreciable difference as to the amount of effusion was apparent: the discs—the right one having been more diseased than the left—remaining in an unhealthy condition, presented a raised surface, with a decided and easily-discerned brown tint, as if some artist not satisfied with nature's handiwork had added some unseemly brown paint, rough in application and dreary in color. Years elapsed ere the patient was fairly fit for work (profession, architect), and indeed it is not by any means a certainty that the disc mischief did not tell so strongly against him as to effectually and for ever militate against his chance of professional success.

A prominent feature of the disease is a slow but certain invasion of the powers of vision. I have known a patient to be discharged from the fever hospital as convalescent, and who has apparently remained so for six months or a year, but who never was, so far as vision is concerned, anything but diseased. It may be that the early discovery of defective vision in these cases is not easy of detection, as typhoid patients do not usually resume their ordinary avocations till long after leaving hospital; but, be this so or not, it is an indisputable fact that the disease of the optic discs grows progressively worse, and, though not as a rule ending in atrophy, so far as my clinical knowledge of the cases teaches me, terminates in a condition truly lamentable for those who have to depend on perfect eyesight for a maintenance.

Although ophthalmologists have found many of these cases to end in absolute atrophy, yet, with but one exception, I have not known it so to end; and in that case alcohol was so mixed up with typhoid poisoning that it was very difficult to draw the line.

A fact worthy of note is that the disease is much more frequent among women than men, and especially amongst childbearing women—(I now refer to the intra-ocular disease). It has never occurred to me to note one such case amongst the boy population, although I can cite many instances in which the disease has attacked girls.

I have never yet met with a case in which a distinct and very accurate history of meningitis could not be obtained. In many of the more marked cases the mania had been very violent, and reminded me much of the clinical history of a decided alcoholic delirium tremens. I have yet to learn that the meningitis may not spread to the cord, and so give rise to that peculiar form of primary white atrophy so easy of detection by the ophthalmoscope, but the true clinical history of which appears to be enveloped in mystery.

I must trespass, so that I may describe one of the first cases of this disease I ever saw, believing as I do, that its clinical history may not prove without value.

Elizabeth M., æt. 50, "in August, 1867, suffered from typhoid fever—'My eyesight previous to the fever was remarkably good, for I had not used glasses. During the fever I was very delirious, the nurse assuring me it was one of the worst cases she had seen. I remained delirious (without my senses?) for more than two days, when I awoke without any distinct vision, and could only see the blaze of the fire, and was practically blind for one month. I remember having very much pain in the head during my illness. I also recollect that after leaving the hospital I was a month and could not see to go about. It is now one year since I left the hospital." Ophthalmoscopic examination in 1868, March 10.

The left disc, of which I made a careful water-color drawing, so far as my lights then allowed, showed a distinct effusion into the apparent outer half with considerable thickening ? of the retinal veins (venous stasis).

The right disc showed an anæmic condition not sufficiently pronounced to be atrophic.

General Symptoms.—Very decided nervous prostration, inability for ordinary work, feeble circulation and muscular weakness; very slow contraction of pupils to light, but ordinary contraction for near vision. Three months elapsed after leaving the hospital before ordinary domestic work could be resumed.

Cases I have recorded, and one I will relate, in which the acute meningeal trouble was persistent, and ended not only in loss of visual power but also in the death of the patient. Post-mortem evidence proves beyond doubt that in these cases the inflammatory mischief is distinctly observable in brain tissue proper; and in those cases in which the effusion into the discs has proved rapidly destructive to vision, the optic tracts have presented direct evidence of softening. Undoubtedly the most serious symptom we have to deal with is vomiting, (continued) as a sequela of cerebral neuralgia with increasing loss of muscular power, and impaired powers of speech. Another phase of the disease, not less interesting clinically is the peculiar change in the general facial expression when the fearful pain (cerebral), which almost hourly is present, has existed for a few weeks. I will not say positively, but I do believe that I could, from such facial alteration—were I informed that it correlated with intense pain intra-cranial—diagnose a past typhoid in which meningeal trouble had been a prominent symptom. I have seen a fine healthy-looking woman with disc trouble, six weeks after convalescence from typhoid fever (meningeal), become in less than a fortnight after my first examination quite exsanguine, with drooping eye-lids, glassy corneæ, and irresolute gait.

The first class of patients, whose brain tissue proper is suffering, present symptoms in many particulars like those of slowly advancing tubercular disease within the skull, and in the few cases I have watched throughout, so intense is their suffering and so far removed from ordinary medical aid, that the welcome end is a boon hourly desired.

Nothing can exceed the agony produced by the incessant vomiting; a condition over which nothing I have ever seen administered had any control.

In the cases in which cerebral neuralgia is intense, and does not pass into the fatal stage of sickness, nothing is more remarkable than the objective symptoms, which so resemble "Bright's disease," that medical men and students not familiar with these cases insist that the kidneys are at fault. I make the same reply always to these inquiries: "Please, test the patient's urine yourself, afterward examine with your ophthalmoscope the fundus of each eye." The first examination is always satisfactory; the second not always so, for few are so well versed in the use of the ophthalmoscope as to be able to deetct symptoms at once peculiar and embarrassing. In speaking of disease of the kidneys, I must qualify my statement by saying I have already mentioned an isolated case in which albumen was detected in the urine of a patient suffering from the acute stage of typhoid fever. Here the eye troubles had early shown themselves, and advanced as the the delirium became more intense. I have heard it stated on good authority that the urine of typhoid patients in the acute stage is seldom or never free from a trace of albumen, which rapidly disappears during convalescence. The earliest case I find recorded in my note book is one so instructive that I must say a few passing words concerning it. Unfortunately I had then no clinical knowledge on the subject, and was for a length of time dubious as to the cause and general character of the disease (intra-ocular). During my early days with the ophthalmoscope, a workingman asked my opinion concerning a rapid failure of sight. The following short history was all I could at first glean:

For six months he had been continually oppressed with a severe and almost unbearable headache, which he described somewhat graphically as a "burden no man could positively bear for a lengthened period without a serious ending;" and so it proved for the poor fellow, for only last evening I saw him perambulating the streets, led by his little daughter, and playing some musical instrument to gain a livelihood.

Now, as I had, when I first saw the man, no knowledge of disc mischief after typhoid, I never inquired into that side of the question, and it was only when another case brought the whole thing prominently before me, that closer questioning elicited the fact that typhoid (meningeal) was the real cause. Another case, not less interesting, now stands prominently before me as one in which a mistaken diagnosis was made, and no wonder, for the ophthalmoscope was then in its infancy. I have to-day seen an out-patient, who gives the following history:

Two years ago I was confined to my bed for six weeks with slow fever (typhoid). I lost consciousness, and was not myself for many days; when I came to myself all objects appeared misty and indistinct (optic neuritis?), gradually my eyesight improved, but has never been good since. Latterly I have suffered from very intense headache, and my sight is again misty'

The patient who gives this history is a girl, æt. 18, a mill-hand, who was engaged in weaving. Work is now no longer possible; for on the one hand vision is more or less imperfect, and on the other hand, so soon as she stoops to her work, the cerebral neuralgia, which even during repose is severe, becomes so aggravated as to cause her to at once cease working. The right eye is markedly different from the left: careful examination of the fundus of the right eye discloses a condition not typical of any preceding neuritis. The contour of the disc is normal, the choroidal ring is sharply defined, and the only abnormal condition is a more than usual pallor of the apparent inner third of the disc, with a fulness and tortuosity of the retinal veins sufficiently pronounced to take cognizance of. Other than these departures from health the fundus was normal. The left eye, examined very carefully, showed a marked irregularity of the edges of the disc, a condition so well known as a sequela of neuritis; the retinal veins were normal. but the arteries were of diminished calibre; with the exception named, the eye was healthy. In this case, although the ophthalmoscope showed us no actively progressive disease, yet vision was much impaired, and the use of the eyes for close work was followed by intense intra-cranial neuralgia: a neuralgia which in degree is ever present. As all know who use the ophthalmoscope how frequently we meet with small hæmorrhages after neuritis; but none ever accompany—so far as my investigations teach me—the disease I am describing. In the clinical history of these cases we must guard against mistake. The cerebral neuralgia of typhoid is in many respects not unlike the neuralgia of syphilis; and the intra-ocular disease may be due to specific mischief, and not to the typhoid poisoning. The evidence on the subject is often so conflicting as to place such cases out of the category of truthful clinical history. It not unfrequently happens that a contracted syphilis shows itself simultaneously with a typhoid fever; and, although there may undoubtedly have been meningeal complications purely typhoid, yet the intra-ocular troubles may be due rather to the poison of syphilis than to the poison of typhoid. I have always carefully avoided adding such cases to my notes of typhoid disc mischief, however (apparently) clear the clinical history may be.

Although I have much yet to say on the subject, the space allotted to me renders it necessary that I should defer further remarks on the subject for a future number.

I had, on my last out-patient day, June 3d, an opportunity of demonstrating to the students present typical examples of the disease. In each case the age of the patient was seventeen years, and both were females: each of the four discs presented the peculiar brown paint-like patch I have already described, and the history of cerebral neuralgia (in one case associated with vomiting) was very well related by each girl.

ACTION OF QUININE AND SALICYLIC ACID ON THE EAR.—Dr. Kirchener has studied the action of these two medicines upon the ear in order to elucidate the question still disputed as to whether the noises in the ear are really to be attributed to congestion of the labyrinth. Clinical experience has for a long time shown that these agents produced vertigo and a certain degree of deafness which disappeared immediately on the cessation of the drug; but sometimes when the quinine or salicylic acid was given in large doses these symptoms persist and constitute a long and serious affection. Experiments on animals proved that quinine and salicylic acid produced hyperæmia of the tympanum, and when excessive, hæmorrhage might result. If the hyperæmia lasted a certain time it might cause an alteration of the ultimate ramification of the nerve.—*Med. Press & Circular.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, August 19th, 1882.

The Week.

IN the report of the action of the Alumnal Association of Miami Medical College in our last issue, read in last line the name of C. P. Brent instead of Crank as reported by the Secretary of the meeting.

CINCINNATI, O., August 10, 1882.

At a special meeting of the medical staff of the Cincinnati Hospital, held August 10th, for the purpose of expressing the sentiment of the staff on the death of Dr. Wm. H. Mussey, a late member of the staff, the following resolutions were presented by the committee appointed, and unanimously adopted.

The staff of the Cincinnati Hospital realizing their loss in the death of Dr. William H. Mussey, a late member, desire to record their testimony to his active, zealous, and conscientious discharge of his duties in his Hospital position, through many years of service. He was faithful and useful in an eminent degree.

We know that he carried the same characteristics into every department of his busy life, was a liberal and patriotic citizen, a philanthropist and a consistent christian.

We offer our sincere condolence to his afflicted family and friends.

WILLIAM CARSON, M. D.
C. G. COMEGYS, M. D.
J. D. MACKENZIE, M. D.

Miscellany.

SMOKE ABATEMENT.—At a public meeting, held at Grosvenor House on July 14th, at which there were present His Grace the Duke of Bedford, the Viscount Bridport, Lord Mount Temple, Sir D. Cooper, Bart., the Hon. W. Egerton, Captain Douglas Galton, F. R. S., C. B., Professor Roberts, F. R. C. S., Dr. Quain, Mr. Ernest Hart Mr. W. R. E. Coles, Mr. P. Hinckes Bird, Lady Goldsmid, Miss Shaw Lefevre, etc., his Grace the Duke of Westminster, K. G., in the chair. The medals and awards made in connection with the Smoke Abatement Exhibitions at South Kensington and Manchester were presented to the successful competitors by Lady Grosvenor. The chairman expressed his deep interest in the work in hand, and his strong conviction of its great public usefulness. The results attained had been excellent, and would, he was convinced, effect a great and permanent growing good. The warmest thanks of the community were due to Mr. Ernest Hart, the founder of the work, and to Mr. W. R. E. Coles, the indefatigable honory secretary. His Grace then called upon Mr. Hart to present the report of the Committee, and, at the same time, desired to express his strong satisfaction that the objects in view would be continuously inculcated, and that a smoke abatement institute was about to be founded for the purpose, in which he should have great pleasure in taking an active part.

Mr. Ernest Hart, in presenting the report, as Chairman of Council, adverted to the fact that, as the result of this movement, a thorough, scientific, and industrial study had, for the first time, been made, on an extended scale, of the capabilities and merits, as well as of the defects of existing grates and fireplaces, and a great stimulus had been given to invention, which had led to satisfactory results, and of the usefulness of which yet greater hopes might be entertained. For the first time in the history of the country, thorough competive tests had been made of all the existing types of fire-place, stove, and kitchener. The principles of the economical combustion of coal, and the abatement of smoke, had been scientifically as well as practically studied, and chemical as well as physical testings had been carried out. The chemical estimation of the gases extracted from chimnies while the grates were in operation, by Professor Chandler Roberts, and Professor Abel, were in the highest degree praiseworthy, and were unique of their kind. The physical testings of the apparatus had been carried out by Mr. D. Kinnear Clark, on a plan devised and approved by Dr. Siemens, Professor Frankland and others of like eminence. The gas testings had been carried out by Mr. Keats, Mr. Hersch, and Mr. Harris, three experts whose authority would be universally recognized. Upwards of £1,500 had been expended on these testings, which had been made not only in connection with the household grates and kitcheners exhibited, but with every description of smoke-abating appliance for industrial and manufacturing purposes. As the result, it was satisfactory to find that at least three of the kitcheners selected burnt ordinary coal with economy, and with excellent practical results, without producing smoke. So far as cooking purposes were concerned, therefore, one considerable part of the smoke problem was solved, and it rested only with those who chose, to employ Brown and Green's "Luton" kitchener, to which a gold medal and a half of Dr. Siemens' prize had been awarded, to have the satisfaction of knowing that at least their kitchener chimney made no contribution to the smoke cloud under which London now suffers. In respect to open grates, results almost equally satisfactory were obtained by the "Luton" grate, by the Kyrle grate of the Coalbrook Dale Company, Ingram's Kaio-Kapnos grate, and Shorland's Manchester ventilating grate. The Siemens principle, in which coke and gaseous fuel were largely employed, gave most highly satisfactory results both for open fireplaces and kitcheners, and it was found that the products of combustion were comepletely carried off and the ventilation of the room as effectually carried out as by the ordinary coal fire. The Dowson Heating Gas opened a prospect of the economical use of heating gas, as distinguished from illuminating gas, from whtch large developments might be expected, and on which one great hope of an absolutely smokeless and economical combustion of fuel might be based. Generally, the results of the tests of gas cooking apparatus had been extremely satisfactory, and to this report he wished to direct special attention. The prizes were then distributed by Lady Grosvenor, after which, statements were made by some of the jurors on the important feature to be observed in connection with some of the exhibits. Professor Chandler Roberts, in the course of some remarks said that, when they remembered that the cloud which hung over London certainly contained every day sixty tons of carbon, it was very important to know, as they most certainly could, that at least boiler furnaces need smoke no longer. Professor Abel moved the first resolution; that it was desirable that the work thus far successfully carried on by the smoke abatement Committee should be continued, and that a Smoke Abatement Institute be formed. He said the recent exhibition had been a fertile source of instruction in directing the way in which they should set to work to accomplish that which was yet only foreshadowed. He alluded to the gaseous fuel to cooking and heating, and expressed his opinion that gaseous fuel had a great future before it. He also directed attention to the present enormous waste of small coal, which did not at present pay the owners of pits to bring to the surface, but which, he believed, in the future might be make productive of gaseous fuel. Mr Norman Lockyer, seconded the resolution, which was carried unanimously. Lord Mount-Temple said he was glad that science had condescended to come down to the chimney-corner, and the fireside or hearth; and immense would be the benefit of it, for proprietors of houses would be taking advantage of the elaborate scientific examinations, and their cooks and housemaids would be acquiring a little of this sanitary science. Mr. Ernest Hart proposed a vote of thanks to His Grace the Duke of Westminster for presiding, to which his lordship replied in terms expressive of his keen interest in the movement.—*British Medical Journal.*

THE DURATION OF ISOLATION OF SUBJECTS OF CONTAGIOUS DISEASES. — M. Hillairet, in the name of a Commission composed of MM. H. Roger, Bergeron, and Hillairet, read before the Académie de Médecine a report in reply to the inquiry addressed to the Academy by the Minister of Public Instruction, as to how long a pupil affected with a contagious disease should be kept away from school.

The report considered the following diseases: varicella, variola, scarlatina, rubeola, mumps and diphtheria, and the conclusions are as follows:

Varicella, whose progress is often irregular, may require ten to twelve days for the fall of the crusts: The isolation should be about twenty-five days.

Variola has a prodromic period of three to four days; four or five days of eruption; three or four days of suppuration; desiccation requires three days; fall of the crusts, six days. Then comes a period of furfuraceous desquamation without definite limit. Isolation should not be less than forty days.

In scarlatina the period of invasion occupies from six to forty-eight hours, or exceptionally three days; the eruption is completed in from five to eight days; desquamation commences on the fourteenth or fifteenth day, and lasts from fifteen to twenty-six days. Isolation should last forty days.

Rubeola has a prodromic period of three to four days; exceptionally, from six to eight, or even twelve days; the eruption is completed in twelve or forty-eight hours, then it declines for twenty-four hours; desquamation lasts from eight to fifteen days. Isolation for forty days will be sufficient.

Mumps, as a rule, has a duration in ordinary cases of six days; convalescence lasts from six to seven days. If any complication of metastasis occurs, it lasts usually about nine days. Isolation for twenty-five days is sufficient.

The duration of diphtheria is very variable, but isolation should be maintained for at least forty days.

The Commission consequently proposes the adoption of the following measures:

1. Pupils affected with chicken-pox, small-pox, scarlet fever, measles, mumps or diphtheria, should be strictly isolated from their comrades.

2. For small-pox, scarlet fever, measles, and diphtheria, isolation should not be shorter than forty days; for chicken-pox and mumps twenty-five days is enough.

3. Isolation should last until after the patient has been bathed.

4. The clothing worn by the patient at the time he was taken sick, should be subjected to a temperature of 90° C. (104° Fahr.), and to sulphur vapor and then well scoured.

5. The bedding, curtains, and furniture of the sick-room should be thoroughly disinfected, washed and aired.

6. The pupil of a school, after recovery from one of the above contagious diseases, should not be readmitted to the school unless furnished with the certificate of a physician that the above precautions have been observed.

These conclusions were adopted by the Academy.—*Gaz. Méd. de Paris.*—*Medical News.*

Recovery of Nine Cases of Hydrophobia.—At a recent meeting of the Paris Academy of Medicine a memorandum was read by M. Decroix reporting nine cases of cure of hydrophobia.

The Committee on Rabies made, during the year 1874, a series of experiments with medicines said to be useful for curing rabies, in which they made use of pilocarpin three times, and in every case the remedies hastened death by the violent fits they brought on.

In the course of his experience M. Decroix met with two cases of rabies which did not end fatally.

The conclusions arrived at by the Committee are as follows:

1. It has been experimentally demonstrated that rabies may recover spontaneously.

2. Up to the present no treatment has proved to be anti-hydrophobic, and cases of cure by this or that means may be attributed to the efforts of nature.

3. All the means used by the Committee since 1874, comprising principally injections of azotate of pilocarpin, have hastened rather than retarded the death of the subject.

4. Those dogs usually recovered which were left without treatment, as the medicines brought on violent fits, and there is an inclination among medical men to leave men thus attacked in perfect quiet, and only practice experiments on animals. The filing down of dog's teeth—an easy and almost painless operation—is still the most efficacious preventative of madness.

5. Rabid people left in the dark and kept quiet are not subject to fits, unless they are brought on by excitement or ordinary medicines, and "as far as I am concerned," says M. Decroix, "I would rather be attacked by this kind of madness than many other diseases, particularly than that red chancre of smokers."—*Medical Press.*

The Cheyne-Stokes Respiration.—A correspondent calls our attention to the term "Cheyne-Stokes breathing" as in frequent use, but in regard to which, readers are generally in the dark as to its meaning. He has looked for information on the subject through the ordinary sources of knowledge, and now asks our aid in clearing up the mystery. We enter on this task the more readily, since we have offended by the use of this mysterious phrase, and because it is a topic of interest apart from the apparent difficulty of its explanation.

The phrase—Cheyne-Skokes respiration—means, of course, the kind of breathing described by Drs. Cheyne and Stokes. The first reference to the peculiarity was made by Dr. Cheyne, so long ago as 1816. Dr. Stokes recalled this fact to the attention of the medical profession, in his classical work on diseases of the heart and aorta thirty years afterward. He also contributed some additional facts, and hence his name is rightly honored by association with Cheyne's in this suggestive phrase—Cheyne-Stokes breathing.

The condition signified by this phrase is a peculiar irregularity of breathing, associated with certain morbid conditions. Not all kinds of irregular breathing can be so designated. Indeed, the term is already misused, and there is a growing disposition to include under it all kinds of breathing associated with irregularity and sighing. As described by Cheyne and afterwards enlarged upon by Stokes, the kind of respiration to which this phrase is properly applicable, consists in the following phenomena: A pause in the breathing—a complete suspension in the respiratory acts for a period of time, during which breathing might occur several times in the normal manner; then the resumption of respiration very feebly and slowly, and a gradual and progressive increase in the number and depth of the respirations, until the maximum is reached; and then again a gradual and progressive diminution, in the same order, in the number and depth of the respirations, until a pause occurs. Thus the movements of respiration oscillate; from an extreme in which all the muscles are laborously engaged, to a minimum in which the respiratory organs seem hardly to act at all, and then a period of repose or of apnœa of longer or shorter duration; to be followed again by the gradual rise to the maximum. During this time of cessation of breathing the arterial tension falls, the pulse quickens, the pupils contract, there occurs a lateral conjugate deviation of the eyes, the face becomes pale, and the mind—the intellect and the general sensibility—are for the moment obtunded. On the other hand, during the period of maximum activity in the respiration, the arterial tension rises, the pulse slows, the pupil dilates, and more or less cyanosis of the face and extremities appears.

The morbid states with which Cheyne-Stokes breathing is associated consist of certain chronic affections of the heart and arterial system. Stokes laid much stress on it as a sign of fatty degeneration of the heart. It has been observed in cases of aortic insufficiency, especially when caused by the calcareous deposits of senility. The first case described by Dr. Cheyne was one in which atheroma of the arteries led to attacks of cerebral hemorrhage. Chronic arteritis, arteritis deformans, and cardiac lesions arising under the same conditions, are the chief factors. The irregularity of breathing which belongs to tubercular meningitis has been said to have the Cheyne-Stokes type, but there is merely distant resemblance—

by no means identity. The irregular respiration occurring in the course of the nervous symptoms of chronic albuminuria approaches more nearly in characteristics to the Cheyne-Stokes breathing; but here again there is resemblance, but not identity.

Cheyne-Stokes breathing is of evil omen, as a rule. This view of its prognostic value is a necessary corollary from its pathogeny. Due to changes in the arterial tunics, which interfere with the normal supply of blood to the medulla, the respiratory centre functionates in a spasmodic manner. The special rhythm of the respiration, which it is the office of the respiratory centre to maintain, is, under these circumstances, perverted. The irregular evolution of the rhythmic force signifies the onset of fatal symptoms, for the damage done to the walls of the vessels must continue in an increasing degree to interfere with the circulation in the medulla. The numerous examples of irregular respiration, bearing a more or less close resemblance to the genuine Cheyne-Stokes breathing, have a prognostic importance determined by the associated and causative lesions.—*Medical News.*

DEATH OF PROF. F. M. BALFOUR.—The greatest loss that English science could well sustain has been experienced in the death, last week, of Mr. Frank Maitland Balfour, Professor of Animal Morphology in the University of Cambridge. It is but a short time since we chronicled the fact of his election to the post thus rendered vacant, and which is now well known was created with the express object of retaining Mr. Balfour at Cambridge. The circumstances surrounding his death are peculiarly mournful. He had gone for a few weeks' relaxation to Switzerland, and while climbing the Alps with a guide for companion, is supposed to have slipped and fallen; at any rate, his dead body and that of the guide have been discovered, but the particulars of the accident must of necessity for ever remain unknown. The late professor, though but thirty years of age, was the most distinguished graduate Cambridge has had since the time of Clifford, and in his own special field of embryology he was without a rival. The work he has already accomplished is a vast addition to our knowledge, and, thanks to his indefatigable industry, is embodied in a connected work which renders it accessible to every student. It will be impossible for Cambridge, even out of the rich store of distinguished scientists numbered among her own graduates, to replace the professor thus prematurely deceased, and the loss experienced also by the world of English science is one that cannot at present be made good. Mr. Balfour's work, however, is his best memorial, and in the influence exerted by it on future progress he will continuously, though dead in body, be alive and active in spirit to the unutterable gain of the science he so loved and served. The deceased naturalist was a Fellow of the Royal Society, Royal Medallist in 1881, M.A., and Fellow of Trinity College, Cambridge, LL.D. of Glasgow University, and President of the Cambridge Physiological Society. He was a younger brother of Mr. Arthur Balfour, M.P., for Hertford, and nephew of the Marquis of Salisbury.—*Med. Press.*

Bibliography.

RANNEY'S "PRACTICAL MEDICAL ANATOMY."[1]

The book recently published by Dr. Ranney fills a space which has long been empty. It is certainly a valuable addition to American medical literature and is exactly what the author claims for it—"a practical medical anatomy."

In the first chapter the bones of the head and the points of special interest connected with them are discussed. Numerous excellent and very important and often overlooked points are here spoken of. This is one of the best chapters in the book.

The chapter on the human face in health and disease is also of great value and the plates illustrating the different expressions in various diseases are excellent. The explanations of the causes for the different expressions of the face are plausible and interesting.

The chapter on the bloodvessels of the head speaks in a clear manner of the modes of ligating the different vessels, when and how they should be ligated and the collateral circulation after ligation. It is a short and concise description of the surgical anatomy of the vessels of the head.

The next chapter describes the surgical anatomy and various diseases with treatment of special regions of the head.

The other chapters are on the vertebral column, chest, neck, pelvis and abdominal cavity.

Taken as a whole the work is one that ought to be read by the surgeon, physician and specialist.

MANSON'S "TREATISE ON THE PHYSIOLOGICAL AND THERAPEUTICAL ACTION OF THE SULPHATE OF QUININE.[2]

The author of this valuable little treatise discusses the action of quinine, in a plain and easy style, under the three usual heads: "1st. Its action on animals; 2d. Its effects on man in health; and 3d. Its effects on the human organism in disease.

As a record of experience in the use of this useful drug it is very instructive, but late experimenters are apparently ignored. Nothing is said of the remedy as a parasiticide. The author's opinion of its action in *intermittents* will not be admitted by many, we think, to quote his words: "It is then upon *impressibility* of the nervous centers that quinine exerts its influence. It obtunds, stupefies the impressionable center, and renders the action of the poison (malarial) ineffectual."

E. L. P.

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[1] A guide to the physician in the study of the relations of the viscera to each other in health and disease and in the diagnosis of the medical and surgical conditions of the anatomical structures of the head and trunk. By Ambrose L. Ranney, A.M., M.D., Adjunct Professor of Anatomy and late lecturer on genito-urinary and minor surgery in the Medical Department of the University of the City of New York, etc., etc. Published by Wm. Wood & Co. For sale by Robert Clarke & Co.

[2] By Otis Frederick Manson, M.D., Professor of Physiology and Pathology in the Medical College of Virginia. Philadelphia: J. B. Lippencott & Co. For sale by Rob't Clarke & Co., Cincinnati. Pp. 164. Price $1 00.

Original Communications.

LARYNGOLOGY.

A paper read before the Ohio State Medical Society, June 14th, 1882.

By Joseph Eichberg, M.D., Cincinnati, Ohio.

In venturing to come before you to-day for the purpose of presenting the claims of one of those branches of our science to which the name of specialties is now ordinarily applied, I do so with the gratifying conviction that many of the audience will be won to the position, which it is the object of this paper to maintain, even before any argument is entered upon, and that the growing experience of all practitioners will sanction the necessity for a more extensive and thorough study of the diseases of the throat and larynx.

It is customary to include in the domain of the specialist in this branch, diseases of the nose and œsophagus as well, the custom being founded on the frequently observed influence which diseases of the one region are apt to exert on the other, owing to the close anatomical relations existing between them, and the extension of morbid processes by mere contiguity of tissue is a phenomenon of no uncommon occurrence.

In confining ourselves, however, to that tract to the study of whose diseased processes we may justly apply the term of laryngology, we shall find that in this domain alone an amount of material has accumulated too great to be more than touched upon in the limits of one short essay. The labors of many patient, conscientious and able observers have served to establish the position of laryngology on as firm a basis as that of any of the recognized specialties of the day, and we may obtain a slight idea of the ever-increasing importance of this department from the establishment of new journals, devoted to this subject alone, from the rapidly increasing number of valuable discoveries and from the improvement in the efficiency of therapeutical measures, which is, after all, the *ultima thule* of all medicine, and the only criterion by which we are justified in estimating its merits or demerits.

Much has been written on the advisability of dividing the science of medicine into so many separate fields of labor, and many are the arguments advanced to prove that such division is apt to make the physician one-sided in his opinions, to narrow his view of the importance of general information, and to prove prejudicial to the patient by leading the medical adviser to overlook indications, which, though they be furnished by the general condition of the patient, yet have an important bearing on the success of treatment. To those who hold this view, the answer may be given, that the rapid increase of specialists and of specialties has not arisen from any arbitrary action on the part of medical men, but that it has found its source in the necessities of the community; the great advance made in the healing art rendering it impossible for any one man, however great his industry and untiring his perseverance, to remain thoroughly informed of what is being done in all of those subdivisions that have grown up from the vastness of the material to be handled. It is, to borrow a familiar example, a process exactly identical with the evolution of trades in social communities, a process that has been repeating itself the world over wherever any progress has been made towards enlightenment and civilization; the conditions being of such a nature, that in the earliest, or barbarian period, where man leads a life of uncertainty, entirely dependent on the bounties of nature and seeking his food with the simplest instruments, the difficulties he has to encounter are so great, that each individual finds it necessary to employ all his energies for his own subsistence. Soon, however, a tendency to congregation develops, because of the greater security offered by united action; and, once this tendency established, a very short time elapses before it is found that individual members of the community possess greater aptitudes for special work, to whom then the performance of such work is, in large measure, confided. The increased demand for his labor will lead the workman to exercise his ingenuity for the greater perfection of the same; one improvement will lead on to the discovery of another, until, finally, a separate art will be found to have grown up for the execution of those offices, which, in a less cultivated state, each man was wont to perform for himself. The evolution of specialties has followed a similar course, the development of a specialty being only dependent on the primary methods of investigation and the discovery of these methods again being intimately related to the advancing knowledge in kindred sciences.

The existence of specialties was a logical sequence of an accumulated store of knowledge, and, while it cannot be denied that their exercise is liable to much abuse and may, in the hands of the unworthy, prove a stepping-stone to deceitful and fraudulent practices, the same remark might be applied with equal justice to any of the mechanical arts. We must, in all our dealings, place a certain amount of confidence in the honesty of human nature until experience shall have taught the contrary, and we have no more means of judging of the skill of a watchmaker, to whom an instrument is brought for repairs, than of the particular fitness of a man who represents himself as specially qualified to treat a certain class of cases. It is presumed in both instances, that the necessary amount of study and of careful training has preceded the assumption of any responsibility, and it is to be remarked to the credit of the race, that, in the majority of instances, the presumption is well founded. Of the way in which specialties grow, after once having taken root, no better idea could be obtained than the following extract taken from the writings of one of the most eminent of English authors of the present day, Mr. Jonathan Hutchinson: "In the early stage of any department of knowledge it is almost a matter of necessity that it should be in the hands of a few; but it is the highest privilege of those, who thus devote themselves to the reclaiming of new spots of territory, to be able after a while to hand them over to the commonwealth, to prove that they are now cultivated and well worthy of annexation." The pioneers in laryngology have done their work ably and well, "the few" have acquitted themselves nobly of the trust, and every day is showing more and more clearly the extent to which they have carried the cultivation of their field.

As in other departments, so in this is it a mistaken idea to imagine that the increase of specialists will detract from the usefulness of the general practitioner, he has more to gain than to lose by their existence, since the results of their labors, as published in the journals, are open to him on equal terms with all others, and he may thus learn to arrive at an accurate diagnosis and to treat his patient understandingly and well. It is hardly possible that our knowledge should be increased on special subjects through any other channel than the labors of the specialists; their preliminary training and the greater facilities for observations presented to them rendering them, at the same time, most qualified to judge of departure from the normal standard.

All specialties might be fairly ranked as subdivions of surgery, referring to the word surgery its old and derivative meaning of "The healing of disease by manual operations"; for it has been found in the practice of all of them, that such operations are necessary for the relief of morbid conditions discovered by our new methods of investigation. If, now, a particular education be necessary for the acquisition of this technical skill in other specialties, it is especially the case in laryngology, where the nature, position and function of the parts involved all combine to make operative interference a measure requiring great delicacy in its preparation and absolute precision in its execution. Comparisons have often been made between the departments of ophthalmology and of laryngology, comparisons that have their justification in the fact that both sciences have grown up from the discovery of an instrument, which would expose to our vision the innermost recesses of the organs to be examined, and thus enable us to appreciate their condition in fullest detail; both organs are anatomically composed of independent structures, each of which is liable to diseases or perversions of function peculiar to itself, though this disease may occasionally affect adjacent parts either directly or indirectly; both play a prominent part in the manifestations of our life of relation and both are the seat of changes dependent on causes acting usually on very remote parts of the body; both require for the relief of some morbid condition prompt and skillful surgical interference.

In making a hasty examination of the anatomical structures of the larynx, we find entering into its composition mucous membrane, connective tissue, fibrous and elastic tissue, cartilage, voluntary muscle and a large number of bloodvessels, nerves and lymphatics; all of these undergoing just those diseased processes, which are found to affect similar structures in other parts of the body, thus, the mucous membrane is subject to catarrhal and ulcerative processes, it is the seat of morbid growths benign or malignant in character, it is liable to acute and chronic congestion and œdema, it is involved in the eruption of various specific fevers, and may slough or be covered with diphtheritic deposit; the cartilages are subject to inflammation of their own tissue and of the perichondrium surrounding them, they are subject to calcareous deposits, to ossification and to anchylosis, as also to necrosis *en masse;* in the connective tissue we have phlegmonous inflammations, the muscles are liable to degeneration, and to paralyses, organic or functional in their origin; the nerves of the larynx may be affected by peripheral and central changes, and its bloodvessels participate in those alterations which affect the whole vascular system throughout the body. It is never to be forgotten, as has been repeatedly pointed out that diseases of the larynx derive their importance not so much from the extent of tissue involved, nor even from the violence of an inflammatory process, as from the peculiar position of the part, which makes a very slight and only temporary obstruction an affair of great gravity.

No more convincing plea could be advanced to those still doubting the utility of making of the diseases of the larynx a separate study than a hasty review of the labors of the sub-section for diseases of the throat at the International Medical Congress of last year, from which it will appear that in no department has there been a greater increase in the scientific and practical knowledge gained in the last few years than in this. After listening to an introductory address from the President there were brought up for a free interchange of opinion the following subjects as representing some of the most important points connected with the subject:

1. The local treatment of diphtheria.
2. The pathology of laryngeal phthisis.
3. Laryngoscopic signs in connection with diseases of the motor nerves of the larynx.
4. Neuroses of sensation of the pharynx and larynx.
5. Extra or intra-laryngeal treatment of benign neoplasms of the larynx.
6. Results of mechanical treatment of laryngeal stenosis.
7. Indications for complete or partial extirpation of the larynx.
8. Galvano-caustic method in. nose, pharynx and larynx.
9. The actual cautery in certain forms of laryngeal disease.
10. Adenoid vegetations in the vault of the pharynx and larynx.
11. The nature and treatment of ozoena.
12. Influence of the female sexual organs on the origin of voice, etc.
13. On the part played by the free portion of the epiglottis in deglutition.

The time is too short to admit of any review, however cursory, of the work accomplished, but the array of subjects is, in itself, sufficient guarantee of the earnestness and zeal of the members of the association.

As representing especial points of interest not only to the specialist, but to the general practitioner, I have ventured to take up the first two of these subjects, and to bring them more in detail before the Society. With reference to the pathology of laryngeal phthisis it may truly be said that no subject of greater scientific interest or of practical import could well come up for discussion before a medical society, and the prominence which was given it at the Congress was certainly owing to the general recognition of the necessity for further information on this subject of all others. It is further remarkable, that, nothwithstanding much difference of opinion as to the existence or non-existence of primary tubercular diseases of the larynx, all were agreed, that cases of this kind are speedily followed by disease of the lung, and, according to some, invariably, according to others, usually terminate fatally by the development of the pulmonary affection. Many observers have alluded to the fact, that it is not infrequent to see what at first appears as a simple ulcer subsequently become tubercular, while to others the ulcer is tubercular in its nature from the outset, although miliary tubercles may not be present. The fact of the occurrence of this peculiar product of inflammation (i.e., the tubercle) in the mucous membrane of the larynx is now pretty generally admitted, as is also the temporary curability of these ulcerations; temporary only, because, unfortunately, up to the time of this writing nearly all of these cases have succumbed to the pulmonary lesions, which accompanied or followed the laryngeal trouble. It is not difficult to understand the discrepancy of opinion on the point of primary laryngeal tuberculosis, for miliary tubercles, when scattered even in very large quantities throughout the lung substance, give rise to no symptoms by which their presence might be recognized or even suspected, so long as they remain isolated, a fact that was stated by Skoda as early as 1836; and the recognition of the dieased process in a part that is so accessible as the larynx may thus precede the discovery of similar disorder in the deep seated portions of the respiratory tract. Disregarding now all past views on this head, we find in the most recent literature of the day a contribution, which, if confirmed, bids fair to revolutionize much of what has been previously thought and written, and promises to shed light on many hitherto unexplained problems of pathology and therapeutics.

In No. 15 of the *Berliner Klinische Wochenschrift*, Dr. Robert Koch, an observer whose name is familiar to many in connection with his researches on the biology of bacteria, published in "Cohn's Beiträge" and his investigations on the infection of wounds, published the result of a carefully conducted series of experiments on the etiology of tuberculosis. His previous labors are the best guarantee of his care and reliability, and it were unjust to refuse consideration to statements that come to us with the authority of his name. The result of these observations, briefly stated, led him to the conclusion that tuberculosis is always a specific disease, whose development is associated with and directly dependent upon the entrance into the body of a microscopic organism, to which he has given the name of bacillus tuberculosis: this parasite differs from all others in the reaction it manifests with peculiar coloring fluids and in the slowness of its development. The parasite usually gains entrance into the body through the respiratory tract, which would explain the great frequency of involvement of the lungs; it would also explain the possibility of some of these low growths becoming arrested in the larynx and leading to a primary affection there, such arrest being all the more likely to take place on a surface denuded of its protective covering of epithelium and roughened by the inflammatory process it has undergone. As pointed out by the author, the confirmation of these experiments and the acceptance by physicians generally of the theory, that tuberculosis is always a specific disease will doubtless lead to improved methods of treatment, particularly as far as prophylaxis is concerned, and will thus enable the physician to combat more effectively a disease, which carries away fully one-third of all persons dying in middle life. The idea of the bacterial origin of tuberculosis is not a new one, having been asserted by Cohnheim, Klebs, Tappeiner and others; the satisfactory demonstration and isolation of the virus, however, having not been successfully accomplished until Koch investigated the matter.

Whatever course future developments may take, the early existence of tubercular disease of the larynx must now be recognized as an established fact and its prompt and early recognition with a view to treatment is a point that requires no further discussion to impress every physician with its vital importance. The relation of local to general processes is here again made manifest, and the field, illuminated by the laryngoscope, may prove of the utmost value in prognosis, and, let us hope, in therapeutics.

How, now, will we recognize the phthisical ulcer, and what must it be differentiated from? Is there a typical appearance for these manifestations, and do all ulcers adhere closely to this type? In many cases, no doubt, the presence of phthisis in the larynx may be recognized by the examination limited to that organ, that is to say, the first glance of the picture revealed by the mirror is sufficient to settle the diagnosis, without calling in to our aid either the previous history or the physical examination of the chest; yet cases do occur, where it is a matter of great difficulty, even with all accessory means of information, to come to any definite conclusion. It would lead us too far to consider in detail all the points involved in a differential diagnosis of tubercular from other varieties of ulcers, but the distinctive signs of tubercular ulcers according to the thesis of Moure are:

The hoarseness of voice, passing into complete aphonia; cough with mucous, and later with purulent expectoration.

Atrophy of the cervical and submaxillary glands. Rosy hue of the mucous membrane in the early stage, with a proneness to be situated in the region of the arytenoid cartilages.

The erosions present a greyish appearance, an illy defined border, and are not raised above the surface.

The tubercular ulcer is almost oval or round with jagged border and is usually found in the arytenoid region.

According to Cohen, the most frequent of the laryngeal lesions in phthisis is a pyriform swelling of the arytenoid cartilage, due to an infiltration of lymph cells in the connective tissue, with a rounding off of the aryepiglottic fold, this is followed by thickening and infiltration of the vocal process of the arytenoid cartilages.

While much has thus been done toward the elucidation of the diagnosis, pathology and prognosis of the affection, it is to be regretted, that our progress in therapeutics has not kept pace with this advance, and that, to many, there is no other plan feasible than the mere palliation of symptoms, tubercular ulcer being to them synonymous with incurable ulcer. Experience has shown that it is certainly wiser to proceed symptomatically than to adopt such heroic treatment as that of Sehmidt, who, in addition to the use of antiseptics by inhalation, would relieve all trouble by making crucial incisions into the swollen mucous membrane. The use of caustics and of all strong astringents has received pretty general condemnation and the principle line of treatment followed in the past has been the insufflation of morphia and other anodynes for the relief of the pain occasioned by each act of swallowing; and, while the healing of tubercular ulcers has been occasionally, though but rarely, observed under this plan, the general verdict has been one of dissatisfaction with the results obtained. Lately, some experiments have been carried on with iodoform; their number is not sufficient to enable us to speak with any certainty, but a brief resumé of an article published by Fränkel[1] may lead others to attempt a cure with the new remedy. It may be administered in powder by insufflation, or in the form of spray from an ethereal solution, or by adding iodoform to water and then heating, when the vapor of iodoform will pass over with watery vapor.

It was seen after its application in the manner stated, that the ulcers showed a more healthy action, the general condition of the patient improved, and, although complete cure was not observed in any of the cases selected for the experiment, in all of these a marked improvement followed its use. The only and great objection to this treatment is the pungent odor of the iodoform, which, however, patients soon learn to neglect, and to which they very willingly submit in view of the relief afforded them.

On the identity of croup and diphtheria. The influence of pathology on the prevalent views with reference to causation and also as to therapy, is very fully and clearly illustrated in the ever-changing and, as yet, not fully complete cycle through which the ideas of the profession have been gradually passing upon the subject of the difference between diphtheria and croup. Described for the first time with any degree of accuracy by the Spanish and subsequently by Italian physicians, our knowledge of diphtheria was most signally advanced by Home and Bretonneau, by the latter of whom the identity of croup and diphtheria was clearly recognized and insisted upon, although he himself protested against the acceptance of the presence of a membrane as distinctive of croup, having observed such a formation as secondary to typhoid, scarlet and other fevers. Of all the articles that have appeared in our day, none is more worthy of attention or enters more fully into all the aspects of the subject, historical, pathological and clinical, than the contribution of Rauchfuss to Gerhardt's Cyclopœdia of Diseases of Children, in which he shows how, after having been for a long time considered as separate affections, croup and diphtheria have now come to be regarded by the majority of those, who have lately given their attention to the subject, as identical in nature. The pathological distinction, based upon the facility with which the newly formed membrane could be separated from the underlying tissue, has been found to be an insufficient, unreliable landmark, and is even less reasonable than the division made by Rokitansky, who considered croup as an exudative affection, while diphtheria was a disease, which led to sloughing of the mucous membrane itself. It is difficult to conceive any difference between the exudation which, in the one case, was found upon the surface of the mucous membrane and slightly adherent to it and an exudation which was deposited partially in the membrane, and, therefore, somewhat more adherent; and when we consider that a membrane, involving primarily the superficial layers of the mucous coating becomes separated at a later stage, and may thus lie in reality upon the surface we can see how purely artificial is the distinction referred to.

Now that we have in support of the doctrine of identity the names of such eminent clinicians as Rilliet and Barthey in France, Jenner in England, and Traube in Germany, with the concurrent opinion of many specialists, it is time that a more careful nomenclature were introduced and that we ceased to speak of true and false, catarrhal and spasmodic croup; that since true croup is different from pharyngeal diphtheria only in its position, we should designate it as laryngeal or tracheal diphtheria, as the case may be. The doctrine of the parasitic origin of diphtheria has been purposely disregarded in speaking of the etiology of the disease, as not influencing the identity of the two affections. While we must admit that much evidence is accumulating in favor of such a view, the proof has not been clearly rendered, and we can only say with Maclagan, that the experiments thus far made would only show the presence of micrococci as an invariable accompaniment of the disease and not that they are the sole, or even the main agents in its causation. To many, the similarity existing between the two affections in regard to pathological changes will not appear as a sufficient reason for accepting this teaching so long as many clinical facts can be cited apparently contradicting it, and, as has happened in the past, attention will probably be called to the absence, in croup, of severe constitutional affection, of the marked epidemic character and of the disastrous sequelæ characterizing pharyngeal diphtheria. Let not the hasty comparison of these features deceive us with reference to the true cause of the affections; a hurried perusal of the literature of the subject will convince even the most skeptical that it is not after all so difficult to reconcile the differences, to bring together facts seemingly so antagonistic, and to harmonize into one the many interpretations of the same phenomena.

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[1] Berliner Klin. Wochenschrift, 1882.

As regards the constitutional prostration so severe in diphtheria and often wanting in croup, we have here differences not greater in any particular, than those characterizing the milder and more severe forms of any epidemic of acute infectious disease; how many cases of scarlatina are there without eruption, or throat affection, or subsequent albuminuria; how many of typhoid without cerebral symptoms and general prostration? Morever, are there not cases of croup beginning with most pronounced general depression?

The difference in the symptoms usually manifested is due to the difference in function of the parts, and the peculiar interference with respiration, change in voice, the gradually supervening asphyxia are all mechanical effects of the obstruction to the air-passages; the cyanosis, lividity of surface, the anxious face, dilated pupils, and the gradually failing powers being but the expression of that steadily increasing carbonic acid poisoning upon which the cessation of life finally depends.

Another reason, which has led many to reject the doctrine of identity of cause is found in the occasional occurrence of isolated cases of croup, but are there not isolated cases of diphtheria as well? And need croup be in every case an epidemic disease before we can receive the idea of its relationship with diphtheria? Moreover, the sporadic cases of croup and diphtheria are manifestly communicable by contagion, just as are those occurring during the prevalence of an epidemic, and the mere fact of their isolation is not a strong argument for their difference of origin. Many cases of croup are observed to complicate pharyngeal diphtheria, and during the prevalence of an epidemic, it is not uncommon to find the process beginning in the trachea and extending upward, the so-called ascending croup.

In regard to this subject we have the dictum of one of the most famous of German clinicians whose name is doubtless familiar to many, Bartels, of Kiel, who says: "I have thus far seen only one form of croup." He gives in extenso the account of an epidemic in his own district, and takes the opportunity to state that for a certain time there were only observed sporadic cases of croup; then, following upon one of these cases which extended upwards into the larynx, an epidemic of pharyngeal diphtheria resulted, and since that time the disease has never completely disappeared. The fact that croup prevailed first and that its extension to the pharynx in the one case gave rise to other cases of diphtheria is very significant.

The epidemic reported by Bartels[1] possesses so many facts bearing directly on the question, that we will be pardoned for briefly relating it here. From 1850–53 Bartels had occasion to observe in the clinic at Kiel *isolated* cases of croup of the larynx; then came an interval of four years, after which *isolated* cases were again observed until 1861, these cases being either croup of the larynx pure and simple, or such as complicated measles and diphtheria; the observations included cases in private, as well as those in hospital practice. In the mean time, i.e., ever since the early part of 1855, there had occurred numerous cases of diphtheria in a district only five miles distant from Kiel, and the number of cases seemed to be continually on the increase. Ever since 1862 the disease became more frequent, also in Kiel and in the whole province of Holstein, and had remained so. The epidemic was somewhat irregular in its distribution, but it was impossible to discover any cause for this unequal distribution; there was no distinct relation to season, temperatare or telluric conditions, nor could its course be explained on the hypothesis of direct contagion. Now comes the question: "Was there any anatomical or clinical difference between the former isolated cases of croup and those observed during the epidemic?" Not in the least degree; the sporadic cases formerly observed showed just the same involvement of the lymphatic glands, the same tumefaction of the spleen, and of the follicular glands of the intestine as were noted in epidemic cases; and finally cases occurred during the prevalence of the epidemic, just as they had done prior to its appearance, in which the croupous inflammations was limited to the air passages, sometimes without even involving the larynx, but affecting only the trachea and bronchi.

Monti,[1] in speaking of laryngitis includes under his disvision of laryngitis crouposa all those cases of membranous deposit in the larynx occurring in cases of diphtheria, where the symptoms are either entirely, or, for the most part local; while he ranks as laryngitis diphtheritica such cases as show in addition to the local, laryngeal process, other local diphtheritic deposits and constitutional symptoms as well. This division can hardly be considered as satisfactory, for reasons already given; and it must be clear that the absence of general symptoms is not a sufficient criterion for separating these two classes. The divisions of many other authors, when analyzed, will be found to rest on somewhat similar and equally illogical premises, and while it must be repeated, that the presence of a false membrane is not in itself distinctive of croup, yet it seems clear that croup and diphtheria are local manifestations of the same process.

More might be said on this and other weighty subjects did time permit; but the paper cannot be brought to its close without referring to the necessity for more frequent and more careful examination of the larynx in autopsies and the possibility of using the laryngoscope in many cases of throat disease in children, two departments in which there is still great room for improvement.

AMONGST the ample stores to be sent to Egypt are four steam ice-machines, the use of which will be taught to members of the hospital corps. Every field hospital will have its ice-box, which will be filled with fresh ice every day.

"WHAT would you do, sir," asks *Punch*, "if you were called to see a man who had hung himself?" "I would cut him down." "Then what would you do?" "I would cut him up."

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[1] Deutsches Archiv für Klin. Medicin, II., 1867.

[1] Ueber Croup im Kindesalter, 1874-1875, Wien.

A CONTRIBUTION TO THE STUDY OF BACILLUS TUBERCULOSUS.

By F. W. Langdon, M.D., Curator to the Cincinnati Hospital.

The apparent importance of the results of Koch's interesting series of experiments with the *bacillus tuberculosus* has led to a very natural desire on the part of many of our local microscopis's and practitioners of medicine to see for themselves the organism which, in the opinion of Koch and others, plays so active a part in the ætiology of the most fatal disease "which human flesh is heir to."

Having made this micro-organism a subject of special study for some weeks, and being in receipt of numerous inquiries from various sources in regard to method of procedure it has occurred to me that a brief account of the, to me, most satisfactory method of preparing it for observation might possess some interest to fellow-workers in the same field.

Early in July of the present year, at the suggestion of Dr. W. A. Rothacker, of the Cincinnati Hospital Staff, I began a series of observations on the sputa of phthisical patients in the wards of that institution; and later, as opportunity occurred, I obtained sections of various organs, lung, mesenteric glands, etc., from a case of miliary tuberculosis.

Having procured, through the courtesy of Dr. R. M. Byrnes and Prof. E. S. Wayne, of the College of Pharmacy of this city, a supply of the coloring materials used by Koch and Ehrlich in their researches, I now attempted to apply the proper color tests to the colorless rod-like organisms discovered in the sputa and various organs above mentioned. In this I was for some time foiled, although the directions of Koch, as translated in various journals were rigidly adhered to.

As every microscopist knows, however, it is extremely difficult or even impossible to reduce to mathematical exactness the description of the various manipulations practiced in the laboratory. Bearing this fact in mind, I instituted a series of experiments of my own, using the same coloring materials but in various proportions, the object in view being two-fold: First, to properly isolate the *bacilli* by the double-staining process; secondly, to prepare them in as short a time as possible, with a view to making the microscopical examination a practical aid to diagnosis. In both particulars I was finally successful, being materially assisted by the various manipulative suggestions of my friend and colleague Dr. J. H. Hunt. Without wearying the reader with a recital of the various failures incurred, I will proceed to detail the method which gives me the best and quickest results.

The materials necessary are as follows:

1st. A concentrated aqueous solution of methyl-violet. This will appear dark violet in color.

2d. A less concentrated aqueous solution of vesuvin. This should be of a clear mahogany brown color.

Both these solutions had better be filtered immediately before use.

3d. A ten per cent. solution of potassium hydrate. (Ordinary liq. potass., U.S.P., would probably answer, but I have not tried it.)

If the *bacilli* are to be sought for in sputum, a minute quantity of the latter is taken up on a needle point, transferred to a slide or cover glass and spread out in the thinnest possible layer. The slide or cover glass is now placed on a warming table, which is then heated over an alcohol lamp until it becomes just a little too hot to be comfortably borne by the finger; when the layer of sputum becomes perfectly dry (in about one minute) the slide is removed from the warm table.

Now, to half a watch-glassful of the methyl-violet solution add one or two drops of the solution of potassium hydrate; this gives the violet a slightly more reddish tinge. Take up one drop of this mixture with a pipette and transfer it to the dried layer of sputum; place the latter again on the warm table, at the same temperature as before, until the water all evaporates, leaving the layer of sputum dark blue in color. Now add, in the same manner, a drop of the vesuvin solution and let it dry similarly. The specimen is now ready for inspection, and if the *bacilli* and spores stand out as blue rods and globules on a brown ground, they are considered to be the true *B. tuberculosus*. Five minutes time is amply sufficient for the examination of a specimen of sputum by this method.

For examining tissues, sections are made in the usual manner, either from the fresh tissue or after hardening it in alcohol. A section is placed in the methyl-violet solution for a few (three to five) minutes; then rinsed in distilled water and transferred to the vesuvin solution for a similar length of time; it is now rinsed in alcohol and mounted in glycerine or Canada balsam.

The isolation of the *bacilli* is much more satisfactory in sputum than in tissue sections, owing to the infinitely thinner layer in which the former may be procured.

The organisms may be identified with a power of about 500 diameters, but it requires a power of about 1,000 or more to bring out their peculiarities of form.

Cremation of Anatomical Subjects.—The Municipality of Paris has just decided, on the advice of Dr. Bourneville, to sanction the cremation of those bodies which have served the purposes of subjects at the School of Practical Anatomy and at Clamart. The total number of such subjects received during the three years ending 1880 at both the above institutions, amounted to 10,144.

Blue Spectacles for the Army.—The British Government has ordered 25,000 blue spectacles or "goggles" for the use of the army in Egypt.

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[1] In this connection I desire to acknowledge my indebtedness to Drs. Schwab, Christopher and Nippert, of the resident staff of the Hospital, who were kind enough to secure for me samples of sputa from patients under their charge.

Correspondence.

OUR SUMMER CORRESPONDENT.

WHITE SULPHUR, W.VA., August 16, 1882.

Editors Lancet and Clinic:

Were you ever at White Sulphur? Have you ever visited that spot blessed by nature with all that is picturesque and beautiful, and yet finished by the refining touch of art? Have you beheld the mammoth and palatial building reaching up its tall columns in one of the most charming of valleys, and spreading its white wings far away to the right and left till they blend with the branches of ancient trees, while hundreds of small cottages, reposing on the hillside, clasp hands around in a charmed circle, with two mountains in the background, like giant sentries, standing guard over all? No? Then come with me a few moments, and I will show you the most delightful resort in the country.

White Sulphur Springs is located in the midst of the mountainous regions of West Virginia and is 2,000 feet above the level of the sea. Situated in a section of country abounding in natural beauties, it would be difficult to find a place presenting a combination of greater attractions. The elevated plateau or valley from which the spring pours commands a lovely and extended view to the south and southwest; while to the east and west the horizon is fretted with mountains. Kate's Mountain and the Greenbrier Mountain, with an elevation of 3,500 feet above the sea level, surround and shelter the valley, while the towering Alleghenies are seen five miles to the north and east. In this valley stands the hotel, mammoth in size and capable, with the surrounding cottages, of accommodating 2,000 guests. Beautiful lawns, parterres of flowers, and large old oaks diversify the scenes about the hotel, and, together with the walks and drives, give the place the appearance of a well regulated park. At night the hotel and grounds are illuminated with electricity and a magnificent spectacle it presents. The corridors are alive with gay promenaders of all ages; children air their graceful forms with that hilarity and dash peculiar to their young lives; lovely maidens look up into the eyes of devoted admirers; fond mothers stroll about to watch their daughters and assist in any intrigue that would enhance their popularity; while fathers and husbands seek a quiet corner or the rotunda for a chat or smoke. The day is spent in horseback riding, driving, lawn tennis, picnicing, etc.; while the evening is consecrated to the dance. After dinner all attention is directed to the parlor, but after supper the ballroom is the center of attraction; the promenade between the two is, however, never a lonely stroll but always a source of entertainment and diversion. Here may be seen some of the most elaborate and costly dresses that ever graced the feminine form; for wealth and outlay seems to be a matter of no concern with the visitors to this place.

White Sulphur is the fashionable resort for the South and, considering this fact, one cannot be surprised at the number of beautiful girls found here. You may canvass the combined forces of the neighboring springs and you will not find half so many. The painstaking and anxious mammas all know what a season at White Sulphur is worth; and this is sufficient to account for the annual influx of belles who have great expectations.

But although the place has always been conducted as a fashionable resort it can hardly be said to have ever been completely successful in that particular. Its comparative remote situation, its surrounding natural beauties, its pure mountain atmosphere, and above all its mineral spring characterize it as a health resort unqualed by any in the land.

The water of the spring, which constantly flows at the rate of thirty-five gallons per minute, has a uniform temperature of 62° F., is transparent and sparkling, and is composed of sulphate of lime, sulphate of magnesia, carbonate of lime, silicates of potash, soda and magnesia, chloride of magnesium, carbonic acid, nitrogen, oxygen, sulphuretted hydrogen, and organic matter. This water has long been known as possessing medicinal properties of great value in the treatment of certain diseases, and is prescribed both internally and in the form of baths. Internally its action is mainly as an alterant, though generally it has a pleasant aperient effect and acts to some extent as a diuretic. Its action as a laxative and diuretic, however, cannot be spoken of as constant, as in some cases, particularly where it is freely drank, its effect is rather constipating than aperient.

The true value of natural mineral waters is a subject which has been long discussed without arriving at a definite conclusion. Is it possible to accomplish the same end by taking the water to the patient as by transporting the patient to the water. In other words what is the value of change of scenery, mode of living, air, climate, etc., in the general result? While perfectly satisfied that these factors are of decided importance I am disposed to attribute more to the water than formerly, but its administration must be directed and not haphazard. Too many come to this place with the belief that they have but to drink and be healed, and the more they drink the quicker comes the cure. Such indiscriminate use of this water may not affect the robust unpleasantly, but the delicate will certainly suffer. All injurious effects in this direction can be avoided by consulting the resident physician, who advises gratuitously on this subject. The far better plan, however, for patients coming to this place for the benefit of the water is to place themselves in the care of the physician, who is experienced in the use of mineral waters and well known to the general profession besides. Dr. C. W. Chancellor, of the Maryland State Board of Health, is permanently located here during the summer and fall months in association with Dr. Moorman, who is now spending his forty-fourth season at the Springs. Physicians, who send patients to this place, will do well to caution them against consulting unknown transient physicians who display their signs around so abundantly during the season. A sad case of accidental death is reported to have taken place here last season all in cônsequence of the careless handling of drugs by one of the above mentioned.

Although hot and cold baths have been employed here for long years, still their value as therapeutic agents have never been fully appreciated. Most physicians have been disposed to look upon them as possessing no advantage over the ordinary bath; I frankly confess to have been among this number, but my observation of late has led me to accept the fact, explain it how we may. I have been informed by a professional friend who suffers greatly from gout that while the ordinary hot bath will aggravate an attack, the hot sulphur bath, with one or two repetitions, will cure it. Many diseases like gout and rheumatism are so intimately connected with local vasomotor spasm, increased arterial tension, and want of nervous equilibrium that we need not be surprised at the effect of the hot bath, even when deprived of the additional stimulus represented in the saline and gaseous constituents. The draughts of sulphur water in conjunction with bathing renders the therapy somewhat more complicated, and, in certain cases, more beneficial.

The diseases in which this water has been used with especial advantage are dyspepsia, rheumatism, gout, malarial poisoning, chronic alcoholism, various skin diseases, and uterine displacements depending upon relaxation and atony of the parts. This region is perfectly free from malaria and a moderate use of the water internally for a few days is sufficient to remove all taint of this kind without resorting to quinine.

The public visiting White Sulphur have long felt the want of certain conveniences for the sick in the way of special diet, isolation and quiet, special appliances for using the baths, douches, etc.; this has been to a great extent remedied by the improvements the place has received during the last year, but the building and equipment of a sanitarium is in contemplation, and this will add wonderfully to the place as a health resort.

Complaint has also been made that the White Sulphur water when bottled and sent away from the Springs deteriorates to such an extent that it is absolutely valueless as a medicinal agent. An examination of the bottling establishment has convinced Dr. Chancellor that the trouble consists in the decomposition of some of the constituents resulting from the use of an iron conducting pipe. This can be easily remedied by substituting some non-oxidizable material and the water can be exported to any point.

"How can White Sulphur be reached?" is a question which many of your readers will ask. It is reached from the west by the Chesapeake and Ohio R. R., which runs Pullman palace cars through from Cincinnati and Louisville in about fifteen hours. This road is magnificently built, and traverses the most picturesque region east of the rocky mountains, affording the tourist a view of some of the grandest scenery on the continent. From Cincinnati the Kentucky Central R. R. takes you through the valley of the Licking as far as Lexington, when the C. and O. R. R. is reached. To look at this quiet, muddy little stream, bordered with the rankest vegetation, you would not think it could assume such an aspect as it wore several weeks ago: to fill up bank full in a few hours, and wind through its course like a huge black serpent, writhing wildly and spreading terror as it went.

At Lexington the negro melody becomes more apparent in the voice of the passengers; the R's are no longer of any use, and the moment they open the doo' or step on the floo' you know they are southern born. You fortify your system by a square meal at the new Phœnix, and then retire for the night to dream of White Sulphur, and its panorama of beauties and festivities. At an early hour when you arise, you are greeted by a view of the beautiful Kanawha Falls, from which your eye wanders grudgingly to the wooded mountain slopes far away in the rear. At this point commences the wild scenery of New River, where the storms seem to have played at football with huge rocks for thousands of years. Giant mountains on either side leave in many places scant space for even the track of the road, which now diving into a tunnel, now spanning the rocky bed of the river, at last reaches the more spacious and verdant valley of the Greenbrier River. From this point to White Sulphur the gorgeous combinations of mountain and stream, woodland and dale, form a series of pictures before your eyes, unsurpassed by any in the world.

R.B.D.

CHEYNE-STOKES BREATHING.

Editors Lancet and Clinic:

On Wednesday of last week, August 9th, Mrs. D. sent a messenger for me in great haste to call and visit her husband, as she believed him to be dying. I at once went with the messenger to 1027 Vine street. On entering the room I found an elderly man lying on a mattress in one corner of the room, with pallid face, breathing rapidly and with apparent difficulty. I spoke to him, calling him by name, but received no answer. The wife informed me that it was useless to question him for he had not spoken for several hours. Upon further examination I found the patient perfectly unconscious, failed to elicit any response even when the name was spoken loudly in the ear. The wife, being a woman of more than ordinary intelligence, suggested that perhaps it would be well for her to tell me something of his condition, both past and present. She went on to state that what alarmed her more especially at this time was the peculiarity of his breathing, while standing at his side just prior to sending for me she noticed his respirations were very irregulár, and all at once entirely ceased. She was confident he did not breathe for quite a minute, this was again followed by very rapid, irregular breathing. I took occasion to remain with the patient for some hours, during this time there were several respiratory rests, lasting from thirty to fifty seconds, not a single muscular movement could be detected, with the exception of an occasional twitching of the left eyelid. The heart's action was exceedingly feeble and slow, the pulse being scarcely perceptible at the wrist. In this connection I may state that some ten days ago our patient received a fall when entering the front door, as near as could be learned, he must have fallen backwards, striking his head on a small stake driven in the ground for the purpose of retaining a heavy plank in position. It is not known definitely how long he remained unconscious. He was picked up in that condition and remained so for several hours. From this he gradually regained consciousness and remained so up to within a few hours prior to my visit. Although able to be up and about he frequently complained of vertigo and severe pain at the base of the brain; this was thought to be nothing more than the natural outgrowth of a severe jarring or shaking up.

Before leaving the patient I very frankly said to the friends that I believed the case hopeless. At my next visit, the following day, I found crape on the door.

As to the nature of the lesion I cannot say, it was without doubt low down, involving the *respiratory tract*, else we could not have had symptoms such as pointed out. There was one peculiarity in the breathing differing from that described by Cheyne and Stokes. Instead of a gradual increase in the depth and number of respirations, after the pause there was rapid breathing from the very onset. In other words there was no rise and fall in the number of respirations preceding or following the pause, but on the contrary rapid and at times irregular breathing.

There was no evidence of any cardiac lesion. The injury or lesion was no doubt of such a nature as to interfere with the circulation of the medulla, producing the same general results as described by Stokes from arterial degeneration of the medulla. W. H. DeWitt, M.D.

Cincinnati, O., August 21st, 1882.

Selections.

MEDICINE.

The Nervous Symptoms of Myxœdema.—W. B. Hadden, M.D., M.R.C.P., Demonstrator of Morbid Anatomy to St. Thomas' Hospital; Physician to St. George's and St. James' Dispensary, writes as follows in *Brain;*

The symptoms of myxœdema are now so familiar to the medical profession, that a very brief general description of the disease will suffice for the object we have in view.

Throughout the body there is a solid œdema affecting the skin and connective tissue.

The parts, however, are not anasarcous, or, in other words, they do not pit on pressure. The facies is pathognomonic. The expression is placid and mask-like, the features broad, puffy and coarse, the nostrils swollen, the lower lip thickened, everted and pendulous, the mouth widened transversely. Over the cheek and nostril there is a well-defined red patch, contrasting with the pallid, porcelain-like area beneath the lower eyelid.

These characteristics are so striking that it is possible to diagnose this affection *de visu*, and without further examination of the patient.

The tongue, fauces and palate are also swollen; the speech is slow, nasal, monotonous; the hands and feet are coarse, shapeless and broadened transversely; the skin is dry and scaly, perspiration and the excretion of sebaceous matter being almost suspended.

The thyroid gland is much diminished in size, and the subclavicular fossæ are often filled in with soft masses. The hair, teeth and nails share in the general malnutrition.

The urine contains no albumen, except in the later stages; but, as we have pointed out elsewhere, the quantity of urea excreted is remarkaably lessened.[1]

When albuminuria occurs it is, as it were, an accident—a frequent accident in the later phase of the disease, but nevertheless an accident pure and simple. It is necessary to lay stress upon this fact, since the idea of a relationship between myxœdema and chronic renal disease has been rather strongly insisted on recently by Dr. Mahomed.[2] This question we do not propose now to discuss, but simply content ourselves with assuming that myxœdema is a disease characterized by a special symptomatology and morbid anatomy. The temperature is almost invariably subnormal, and there is a constant sensation of cold, so that even the hottest weather causes no uncomfortable feeling of warmth. The bodily movements are performed slowly, though usually without imperfection. Falls, however, sometimes occur, and are dependent on the irregular action of the muscular groups, which are physiologically antagonistic.

In short, there is often some degree of incoördination. The muscles, as in ataxy, lack tone, but are never paralyzed nor atrophied.

The tendon reflexes are, in our experience, preserved intact.

In a case reported by Dr. Hammond,[3] of New York, the ataxic symptoms were very evident. "The gait was staggering, the feet were not lifted clear of the ground, the grasp of the hands was weak, and the articulation was sluggish and indistinct. There was marked difficulty of coordination both in the upper and lower extremities. Although the patient could stand with the eyes shut, she walked with an uncertain step, unless her eyes were directed to the ground, as is the case in locomotor ataxia. She could not put the finger on any given part of the face unless she had her vision to guide her, and even with that assistance she did not readily and with certainty direct the movements of the hands."

No mention is made of the condition of the patellar tendon reflex.

Lightning pains, similar to those experienced in tabes dorsalis are occasionally observed; but whether the cause in each case is identical we are not prepared to say.

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[1] Progrès Médical, Nos. 30 and 31, 1880.

[2] See Report of Clinical Society's meeting, British Med. Journal, Dec. 24, 1881.

[3] "On Myxœdema, with special reference to its Cerebral and Nervous Symptoms," Neurological Contributions,' vol. i., No. 3.

Common sensation is generally much impaired, apparently never annihilated, but blunted and retarded.

Subjective sensations, such as formication and "pins and needles," are very commonly experienced.

In the late stages of the disease the special senses are liable to become affected. In Hammond's patient there was double optic neuritis, objects appeared blurred and surrounded by a halo, and there was occasional double vision. The pupils were equal, but very sluggish to light. Visual disorders, however, are by no means constant, and may even be absent up to the last.

Deafness is more common. It depends, perhaps, as Hammond believes, on a diseased condition of the auditory nerves themselves.

Subjective auditory sensations, such as tinnitus and "roaring of waves," in both ears (Semon) are described.

As might be expected, the senses of taste and smell are liable to impairment. Hammond found the latter almost absent in his patient, who was unable also to distinguish fish from roast beef. It must be mentioned that a patient of Dr. Ord's presented marked bulbar symptoms. In another case exophthalmos preceded the onset of the disease.

Protrusion of the eye-balls, indeed, has been observed more than once.

To the possible significance of these two conditions we shall allude later.

Fatigue, on the slightest bodily exertion, is a very constant symptom of myxœdema. The most ordinary duties of life, such as dressing, are not only performed with great slowness, but entail an amount of lassitude quite out of proportion to the muscular effort put forth. The patients are consequently inert and sluggish, and indisposed for any exertion, however trifling. Their condition, indeed, may be aptly likened to that of cold-blooded vertebrates. Headache, sometimes of a very severe character, is very commonly found to be present. Somnolence during the day is a frequent symptom; but sleep at night is generally disturbed by unpleasant dreams, from which the patient awakens much startled and terrified.

The symptoms referable to the cerebrum are very interesting, and at present by no means fully understood.

In addition to the bodily inertia, to which allusion has been made, there is always very marked intellectual lethargy.

The thoughts are evolved slowly, and often a distinctly prolonged interval elapses before the nature of a question addressed is grasped by the patient.

Memory, according to some observers, for recent events in particular, is in most cases impaired, but aphasia, in the strict sense of the term, is of doubtful occurrence. Dr. Semon,[1] however, found that his patient often called things by their wrong names.

We must note the very frequent, almost constant, existence of emotional disturbances, under the influence of which the patchy redness over the cheeks and nostrils is momentarily brought into strong relief.

There is occasionally found in myxœdematous patients an exaggerated degree of what they call "nervousness."

In a case of Dr. Ord's, which we described in the Clinical Society's Transactions for 1881, the condition was that of agarophobia.

The patient's state may be given in her own words:

"I could always walk across a room, but when out of doors I feel as if there was too much space, and am in constant fear of falling. If I met a child I should stop, as the slightest touch would knock me over; a stone on the path would make me stumble if I trod on it."

In Dr. Semon's case, reported in the same volume, the "nervousness" was of a different nature. "She was afraid that she would jump out of the window, or do something formidable. But still she tried her best to prevent herself thinking of it."

In this instance we see a tendency to impulses which, although not suicidal, are nevertheless suggestive of an unstable mental condition.

True insanity in the later stages of myxœdema has, indeed, been several times observed, and its causation has given rise to a certain amount of discussion.

When mental alienation supervenes, it usually takes the form of hallucinations of hearing and sight.

Hammond's patient heard the voices of Frenchmen abusing and threatening her; but curiously enough she never saw her persecutors. Her visual hallucinations consisted chiefly of apparitions of departed friends. In an interesting résumé of myxœdema (*Archives of Neurologie*, vol. iii., Nos. 7 and 8), Blaise narrates a case in which hallucinations formed one of the most prominent features of the disease.

The patient complained of bad tastes and odors, of insulting and obscene remarks addressed to her by those around. At first she quite recognized the falsity of these impressions; but in course of time she lent them entire credence. She thought her body exhaled a repulsive odor, that she was accused of killing her child, that her face was covered with a mask, and at other times that she had the head of a dog. Ideas of persecution became very pronounced. She mistook the nurses for men, disguised as women, who wished to kill her, and frequently uttered cries of terror under the influence of this delusion. In spite of the severity of the symptoms, the condition of the patient improved to the extent of a partial cure.

M. Blaise noticed that the mental disorder and the swollen state of the integuments underwent amelioration simultaneously. This evident relation between the two lends some support, he believes, to the theory put forward by Dr. Ord.

The question thus opened up has already been discussed by Dr. Savage in the *Journal of Mental Science*, January, 1880. Are we to believe with Dr. Ord that the symptoms of myxœdema depend on the fact that the peripheral nerve-endings are so padded and isolated by solid material that they are partially incapacitated to receive the healthy impressions which, when transmitted to the higher nervous centres, regulate both the bodily and mental functions?

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[1] See Clinical Society's Transactions, 1881.

Is this explanation sufficient?

The case given by Blaise certainly lends fresh weight to this hypothesis.

But on the other hand, the observations of Hammond and Semon show that the swollen condition of the integuments may occur comparatively late in the course of the disease.

In his first autopsy, Dr. Ord was unable to find any lesion in the brain and spinal cord; but subsequent investigations brought to light very evident changes in these parts.

Indeed, it is scarcely conceivable that the organ to which some of the most characteristic symptoms of myxœdema are referable, should alone remain intact.

In face of the fact that the brain exhibits degenerative changes, it seems to us a forced conclusion to ascribe the cerebral symptoms of the disease entirely to peripheral alteration. Elsewhere we have suggested that the main features of myxœdema may be explained on the basis of a sympathetic lesion affecting the general nutrition.

The principal symptoms of the disease may be summed up under the following heads:

1. Slowness of bodily movements.
2. Slowness of intellectual operations.
3. Constantly subnormal temperature.
4. Diminished excretion of urea.
5. Solid œdema of skin and connective tissue.
6. Decreased size of thyroid gland.

The remarkable diminution in the amount of urea excreted by the kidneys, to which we first called attention, has since been verified by several observers.

Is the urea actually formed in the system, but retained in the blood?

We think not, because uræmic poisoning would assuredly be experienced more commonly if this were the case. Yet such symptoms were absent in a woman who passed as little as 95.6 grains in one day, and a daily average of 184·3 grains, when placed on a nitrogenous diet.

It must be borne in mind, however, that these patients eat badly, and that on this account alone the formation of urea would be below the mean.

The probable explanation is that the urea is not formed in the system, because the tissues are not subjected to the usual wear and tear of life.

Heat-formation is thus retarded, and the consequence is diminished body-temperature, as shown by the thermometer, and the subjective sensation of cold. Every thought and every act is dependent on chemical changes in the tissues, resulting in the formation of simpler products, of which urea is the chief, and a concomitant elevation of temperature. These destructive, but essential changes, upon the active performance of which our healthy being is due, are partially arrested in myxœdema.

It is a matter of common knowledge that the vasomotor filaments of the sympathetic, through their action on the blood-vessels, exert a powerful influence over nutrition. It is well known, too, that there are two kinds of fibres having diametrically opposite effects on the calibre of the vessels. Irritation of the vaso-constrictor fibres stimulates the excito-motor ganglia contained in the plexus which is distributed to the vessels, whereas irritation of the vaso-dilator fibres inhibits these ganglia, the result being vascular dilatation through paralysis of the muscular coat.

The supreme vaso-motor centre is located in the medulla oblongata, but secondary centres probably exist throughout the whole length of the cord.

From what precedes, it is clear that a condition of angio-spasm may supervene, in consequence of lesion of either the vaso-constrictor or vaso-dilator filaments. We do not presume to indicate the nature of the lesion, which, of course, can only be discovered by microscopical research, nor, indeed do we venture to suggest confidently its localization; but we simply wish to throw out a working hypothesis which, at any rate in our opinion, has a *prima facie* probability. Assuming then a state of angiospasm universally existing, we have a fair explanation of the main symptoms of myxœdema. As a consequence there would result diminished tissue-waste and heat, together with bodily and mental sluggishness.

And if vaso-motor paralysis be the cause of the enlarged thyroid in exophthalmic goitre, may not vaso-motor spasm, or angiospasm, be invoked on behalf of the opposite condition of this gland in myxœdema?

We have no hesitation in mentioning an apparently contradictory, but nevertheless a highly significant, fact.

In a case of Dr. Ord's, exophthalmos preceded the onset of the disease. A certain degree of protrusion of the eyeballs has, indeed, been observed more than once. On the theory in question, the solid œdema of the connective tissue is not quite so readily explicable. But angiospasm does not affect the blood-vascular system alone, but involves also the lymphatics. Under such circumstances there would be a generalized lymphatic obstruction, or, in other words, an inability, as it were, on their part to remove the products from the lymphatic spaces within the connective tissue. "The result is the development of what is often termed solid œdema, or leucophlegmasia of the implicated portion of the body. This becomes swollen and tense, and of a pale waxy hue, but does not pit on pressure as in ordinary venous dropsy."[1]

Such a condition is seen in a form of enlarged tongue, described by Virchow, occasionally in the upper extremity, but more often in the lower limb, abdomen, and scrotum, constituting the disease called elephantiasis lymphangiectodes. It is conceivable that these accumulated products should, in the course of time, undergo changes resulting in the formation of mucin; but whether these changes are of an organizing or of a degenerative nature in the special case of myxœdema, it is at present difficult to say. In conclusion we believe:

1. That in the early stages myxœdema is essentially a disease of imperfect nutrition, dependent probably on generalised angiospasm.

2. That the solid œdematous condition of the skin and connective tissue is due to a form of lymphatic obstruction, which may also be ascribed to vaso-motor influence; and that the

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[1] Dr. Bristow's Theory and Practice of Medicine, Third edition, p. 558.

accumulated products undergo changes which result in the formation of mucin.

3. That the condition of the thyroid gland is also to be explained on the vaso-motor hypothesis.

4. That the more severe mental symptoms, such as insanity, occurring in the later stages of myxœdema, are due to alterations in the brain itself.

5. That, although myxœdema is a distinct morbid entity, it is probably intimately allied to certain other disorders, such as sporadic cretinism and scleroderma.

6. That the solid œdema, which is universal in myxœdema, may be localised to various parts of the body, such as the tongue and extremities.

7. That the primary and essential lesion probably exists in the peripheral sympathetic system, and perhaps, too, in the supreme centre in the medulla oblongata, this last supposition being based on the occasional occurrence of bulbar symptoms in myxœdema.

SOME PECULIARITIES OF TUBERCULOSIS EXPLAINED BY THE PARASITIC NATURE OF THIS DISEASE. — Since the careful and extensive researches of Robert Koch have beyond doubt established the parasitic nature of tuberculosis, a good many phenomena of this terrible disease, hitherto unexplained, have become easy to understand.

Tuberculosis, according to Koch, depends upon the presence in the body of numbers of rod-like bacteria, which are found in every case of phthisis, acute miliary tuberculosis, cheesy pneumonia, cheesy bronchitis, fungous arthritis, pleuro pneumonia of cattle, and sometimes in scrofulous affections, especially enlarged lymph nodes. This slender bacillus, pointed at both ends, the length of which varies from one-quarter to one-half the diameter of a red blood corpuscle, is about five times as long as thick, and often shows four to five oval spores, evenly distributed over its entire length. This bacillus, which absorbs methylene-blue but rejects brown aniline dyes, thus differing from all other bacteria known, is a true parasite of the animal body, flourishing only at temperatures furnished by his living abode, and becomes totally inactive at the ordinary temperatures of our climate. Fortunately for mankind it multiplies very slowly, requiring nearly a week to proliferate much under the most favorable conditions, so that it has no footing upon wounds of the outer surface, like other quickly developing organisms, but is washed away by the secretions before it has had a chance to multiply. Even in the sheltered air passages, where it generally makes its first appearance, unless finding its soil prepared by previous inflammatory processes, loss of epithelium, etc., it seems entirely innocuous, being readily removed with the secretions before it has time to take root. When it once has a firm footing, its local extension is still slow, because the bacillus has no movement of its own, and, in order to reach the other parts, it must be carried thither by the lymphoid cells. If however, the bacilli reach the lymph channels, they are carried greater distances, successively infecting the whole track of a lymph vessel, until stored up in the filter of the nearest lymph node. The matter becomes very serious when numbers of them reach the blood current in the veins, when they become disseminated through numerous internal organs, and acute miliary tuberculosis will be the result.

The anatomy of a tubercle is easily explained now also; a bacillus settles in a tissue, irritates and causes a small-cell infiltration around it; those of these cells nearest the parasite grow up to fibroblasts (epithelioid cells), which, closely pressing upon each other, coalesce and form the giant cell, so often found in the centre of miliary tubercles, harboring one or several bacilli. This giant cell is again surrounded by embryonic cells, some of which are growing up into epithelioid cells. Since no blood vessels form, the center of the tubercle undergoes fatty degeneration as soon as the growth spreading in the periphery has become numerous enough to take up all the nutriment supplied by the nearest vessels. A number of bacilli appear to die with the cells, which gradually shrink up into a cheesy mass, but others are taken up with particles of detritus by lymphoid cells and are transported into the immediate vicinity, where they begin slowly to proliferate again, giving rise to a fresh tubercle, when the process is repeated over again, adding to the central destruction as well as to the peripheral proliferation. As may be inferred from this, the bacilli are found in greatest number where the process is in the act of spreading; where the latter is stationary they are difficult to find.

How do the bacilli enter the system! Koch found that sputa of phthisical patients always contained bacilli; in fact, that the grumous masses so generally present in all vomicæ entirely consisted of agglomerations of these parasites. The drying of a sputum does not rob the bacillus of its life; sputa dried for eight weeks, and injected into guinea pigs, produced acute miliary tuberculosis in every instance. The dry sputum upon the floor is ground into dust; the bacilli, adhering to some particle of the latter, enter the lungs with the air we breathe and arrested upon some prominent part of the mucous membrane which lies opposite the air-current, especially the ridges of the alveolar septa.

But there are other channels by which the bacillus of tuberculosis can enter our system. Pleuro pneumonia of cattle being identical with tuberculosis, the bacillus may be introduced into our alimentary canal with the meat or milk of cattle suffering from this disease.

There is one point which might be urged against the conclusiveness of Koch's observations. We mean the hereditary acquisition of consumption. Still this can be explained very easily. Judging from analogy with syphilis, the twin brother of tuberculosis, direct transmission of the disease germ is possible; also that the disease may remain latent, unless the germs are so numerous as to overwhelm the resistance of the vigorous functions of the young cells of childhood. Furthermore, numbers of them are easily stored away in some lymph node, where they are kept from doing general mischief for a time. Again, we must keep in mind, that in cases where direct transmission of the disease-germ has not taken place, the direct contagiousness and infectiousness of the bacillus comes into free play, the children being obliged constantly to inhale the infected air of their home, or ingest the parasite with the mother's milk.

The practical results obtained from Koch's valuable paper may be summed up as follows:

All sputa from phthisical patients are to be disinfected immediately; also the clothing, bedding, etc., before used by other people.

Phthisical mothers must not nurse their infants.

Scrofulous, infiltrated glands ought to be excised.

Meat and milk from cattle which have suffered from pleuro-pneumonia must not be allowed to enter our system.

Antiseptic treatment, perseveringly and vigorously carried out, is the only rational treatment for consumption. Carbolic acid inhalations through the nasal respirator, local treatment of tubercular ulcers, fungous arthritis, etc., with iodoform, have already given great results, the latter remedy being preferable in places where the drug can remain undisturbed for a longer time. —Dr. F. W. Vogel, in *Philadelphia Medical and Surgical Reporter*.

THE LOCALIZATION OF HEMIANOPSIA AND THE MUSCULAR SENSE IN MAN.—Westphal (*Charité-Annalen*, 1882) reports a case which throws some light on this subject. The patient was a man, aged thirty-eight, who in July, 1879, suffered from delirium tremens. From this he recovered, but on August 7 he became aphasic without losing consciousness. On August 14 and again on August 10 he was convulsed on the right side and had symptoms of the so-called atactic and sensory aphasia, but did not lose consciousness. And lastly, on November 13, he was unconscious for a short time, and was temporarily paralyzed in the right arm. In all of these attacks the motility of the right extremities seemed deeply impaired, but it is difficult to say how far it is owing to the inability to originate a suitable nervous impulse to a defect of volition. There was undoubtedly some motor weakness, but it was not permanent, and in a short time the patient always recovered his muscular strength.

But in addition to these motor symptoms there were sensory symptoms, and these were permanent. They were observed with great minuteness from October, 1879 to December 1881 (when the patient died somewhat suddenly), and were never found to exhibit much variation. There was a marked impairment of the muscular sense of the right upper extremity. The right hand was used very clumsily, and the patient seemed unconscious of the position of the upper extremity and of the movements it made In the right lower extremity there was scarcely any affection of the muscular sense. Sensibility was diminished in the right side of the body and in parts of the face. There was bilateral right hemianopsia.

The *post-mortem* revealed a lesion implicating the whole of the parietal lobe (including the ascending parietal convolution), the greater part of the occipital lobe, and a small portion of the temporo-sphenoidal lobe. Here the pia was adherent to the cortex, the grey matter was softened, and of a yellow color, and the convolutions were atrophied. The atrophy was less noticeable in the posterior part of angular gyrus than elsewhere. The cortex only was involved. The rest of the brain was normal. This condition of the brain reminds us of general paralysis, but Westphal is of opinion that the two processes are essentially different.

Westphal attributes the hemianopsia to the lesion of the occipatal convolutions. He is unable to say whether the loss of muscular sensation is dependent on the lesion of the ascending parietal convolution or on that of the remaining parietal convolutions.

SECONDARY DEGENERATION OF THE MEDULLA OBLONGATA AND SPINAL CORD.—Dr. Homan *Virchow's Archiv*, April, 1882) contributes the notes of eight cases in illustration of the histological relations of this pathological condition. Full clinical history of each case is given, together with the results of microscopical examination, of which the following is a brief summary.

In the first case there was repeated apoplectic attacks. Softening on both sides of the pons, with obliteration of the basilar artery and its branches. On the left side (attributable to an attack dating two years previously (the pyramidal strand was implicated. Descending degeneration was traced, with atrophy of the left pyramidal column and its continuation into the spinal cord. On the right side, likewise, a lesion, dating about five weeks, was followed by descending degeneration of the pyramid. Wasting of the axis cylinder of the nerve fibres was observable, also grey degeneration of the posterior columns of the cord.

In the second case, concurrent with an apoplectic seizure, three years before, with right hemiplegia, descending into the cord with atrophy of the nerve fibres; the fillet was involved in the descending degeneration.

The third case was one of hemorrhage into the central cerebral ganglia on the left side, three weeks before death, with right lateral palsy; there was descending degeneration of the nerve fibres, and proliferation of nuclei in the connective.

The features of the four following cases had much in common with the preceding. The last case related by Dr. Homen was one of myelitis of the dorsal region of the spinal cord, of seven months' duration, attended with ascending and descending degeneration, atrophy of the axis cylinders, and incipient nerve cells and nuclei.

With reference to these histological lesions, it was observed that in the first case, where a double lesion existed, there was an important difference in the secondary degeneration on the two sides. The first attack was twelve years before death, the second occurred ten years subsequently.

In cases of the shortest duration, after the apoplectic attack, there was already apparent a wasting of the axis cylinders, a granular degeneration of the medullary sheath, with increase of connective tissue and proliferation of its nuclei. Those parts which have undergone degeneration are noticeable even on microscopic inspection, as they take the coloration of the Müller's solution more markedly than the adjacent healthy parts.

Dr. Homen appends the following conclusions as the results of his investigations:

1. That the earliest degenerative changes are found in the axis cylinders, not in the medullary sheaths.

2. That degeneration of the spinal cord may be found as early as three weeks after the occurrence of the lesion in the brain, and that proliferation of nuclei will then be present.

3. That a descending degeneration of the fillet (Schleifenschicht) of the pons and medulla oblongata also occurs.

4. That, subsequently, slight atrophy of the anterior cornua of the grey matter, and some degree of degeneration of the anterior nerve roots on the affected side will supervene, but not necessarily a change in the nerve cells of the anterior horns.—*The Practitioner.*

SURGERY.

Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Diseases.

—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F. R. C. S. (Continued from our last issue.)

The greater the degree of hereditary proclivity the less the need for the exciting cause. We may note also that we often frequently have to witness in the case of scrofula the influence of what may be called contributory cases, such for instance as the occurence of an exanthem or other acute illness. We have then to examine as to what may be the influence under which a proclivity to inflammation of the scrofulous type may arise, and we shall probably be not much mistaken if we make as we should do in the case of rickets that they are largely due to deficient and unsuitable food; but that, at the same time, it must be admitted that climate, clothing, and weather take each a very considerable share. As regards diet, it is probably a deficiency of fatty matters, such as butter, oil, and the other various forms of animal and vegetable fat, which is influential; and as regards climate, deficiency of sun and exposure to damp and cold. Scrofula as we see it is probably always inherited, but it is often probably largely increased by exposure to the causes hinted at. Possibly there are few practical dietic changes which would be more beneficial to our English population, in reference to scrofula, than a large increase in the comsumption of butter and other animal fats. The comparative immunity of those who use the fish oils as articles of food, and the prophylactic virtues of cod-liver oil amongst ourselves are, I believe, established facts, and their lesson is of considerable importance in reference to the dietic causes of scrofula. We are enabled at the present time to speak much more definitely as to the diseases which should be classed as scrofulous, and as to their essential connection with the tendency to tuberculosis than we were some years ago. A considerable number of diseases of the skin, of the bones, of the eye, have been conclusively removed from the scrofulous group, and placed under their proper designations, as cryptogamic in the one case, and syphilitic in the other.

So far has this gone that I can easily imagine that there may be some who think that I have given too wide a definition of scrofula, when I asserted that it is not always associated with the growth of crude tubercle. To such critics I will produce the instance of scrofulous ophthalmia, which usually consists of a chronic, slow-to-heal, ulceration of the cornea, unquestionably dependent upon a constitutional cause, and often coincident with other scrofulous manifestations. There are also diseases I cannot but believe, amongst the inflammation of joints which are slow, comparatively painless in the ordinary sense of the word scrofulous, and occurring in the relatives of those who are themselves tuberculous, but in which yet is impossible to prove the presence of tubercle either in bone or synovial membrane. The frequent and comparatively easy and often permanent cure of many forms of scrofulous inflammation is also, I think, another reason for believing that, although tubercle is its ordinary goal, it is by no means always reached. The scrofulous diathesis is indeed very ill-defined, and, in many instances, shades off very gradually into other states of defective organization. How closely, for instance, are many conditions which are called scrofulous associated to those peculiar states of feeble circulation and irritable tissues which give liability to chilblains, swollen lips, and the like affection? Yet these latter are not probably in any strong degree indicative of tendency to tuberculosis.

The liability to rickets, in other words to a derangement of health in infancy, of which defective ossification is the chief, but by no means the only result, should unquestionably rank as a diathesis. It is one however, which is usually, though not quite interminable at a certain period of life. In very rare instances, so rare as to be almost doubtful, it may begin during intra-uterine life, but usually its advent is delayed until near the end of lactation, and it reaches its climax and begins to subside just at the time when the child, hitherto carefully restricted to very few articles of food, and mainly to milk, is allowed to indulge its tastes, and to have variety. With such facts the first suspicion must certainly be that it is probably dependent on a milk regimen, and in the main no doubt this suspicion is correct. In numberless instances it has been proved that the milk upon which children have become "rickety" was distinctly poor in quality. The advantages in change of regimen are almost always well-marked, and although some experimenters on the lower animals have failed in the artificial production of rickets, through restricted food others appear to have succeeded. Whilst, however, we may safely believe that defects in diet are the main cause of rickets, and that they may be effectual in the almost entire absence of others, yet it is probable that others are usually present and contributory. In the discussion on rickets which took place at the Pathological Society two years ago several speakers drew attention to the fact that the disease is very rare in sunny climates, although infantile inanition from poor food may be common.

Mr. Spencer Watson in particular used arguments which made it very probable that free exposure to sunlight and warmth would do much to enable a child improperly fed to yet effect assimilation in such a way as to keep clear of rickets. We may certainly believe it probable that our climate and the narrow sunless streets of our large towns take their share in the production of what was once known on the continent as "the English disease." Let me say one word here to repudiate the suggestion which has recently come from Paris, that inherited syphilis is the real cause of rickets. The two diatheses are probably quite distinct, although they may often co-exist, and in other instances may simulate each other. Inherited syphilis, as the labors of Taylor in New York, M. Parrot, in Paris, and Drs. Barlow and Lees amongst ourselves have shown us, may frequently produce swelling about the epiphyses, and a state of general tenderness of the skull due to ostitis which might be mistaken for rickets.

A word or two must here be said respecting a disease of the osseous system of great variety which has been been named rickets of the adult. I allude to osteo-malakia, or fragilitas ossium. It is probable that maladies having relation to different causes have been confused together under this title. But respecting a certain number of the best-marked cases, there appears good reason to believe that the disease is really a form of rickets, and that the differences observed between the two maladies are chiefly due to the very different condition of the osseous system as regards its development at the time of attack. Trousseau has recorded a case in which osteo-malakia attacked a woman of seventy who had been rickety in childhood, and another case in which this disease was cured rapidly by the use of cod-liver oil and liberal diet. There is a skeleton in the Brighton Museum which was obtained through the zeal of the accomplished physician the late Dr. Ormerod, which is one of the best examples of osteomalakia which I have ever seen. The man had had innumerable fractures, and partly through this molimen and partly through bending of his bones had lost more than two feet of his stature. In this instance the man's children were much deformed by infantile rickets, if not fatal, which passes away as age advances, and under the influence of dietic treatment, we may reasonably suspect that there are a few cases in which it does not do so, and that it is quite possible for it to be reproduced or even initiated in adult life. In respect to its rapid subsidence, and usually its complete disappearance when the diet is improved, the rachitic diathesis has a close parallel in scurvy. The latter malady is indeed of such short duration that we might hesitate to apply the term diathesis to it. It is for the most part an acute diathetic disease produced quickly and quickly cured. In saying this, however, we have not said all, for there are cases in which scurvy passes into the chronic form and becomes the source of permanent ill-health. When it does so it may fairly claim to rank with the diatheses, and it is quite possible in exceptional instances some degree of influence from it may be hereditarily transmissible. In scrofula, rickets, and in scurvy, we have examples of diathesis produced by defective food, whilst in leprosy and gout we illustrate those due to some excess, or rather to something deleterious contained in the food. Close by the side of leprosy I ought to mention ergotism, pellagra, and chronic lead-poisoning, and some others, but time does not permit.

Can the specific animal poisons become the producers of permanent diatheses? This question must, I think, be answered in the main in the negative. Unquestionably they may produce conditions of ill-health which persist for a short time, and may cause various morbid manifestations; but these states are short-lived, and perhaps are as fitly ranked as dyscrasiæ as diatheses. This is true even, I think, of syphilis, the most chronic and most persisting of all specific fevers. Excepting in some small degree of reduced liability to the influence of the poison which is to be observed in the offspring of those who have suffered, I doubt whether in any case the influence of a specific fever in a parent is to be traced in the offspring. No state of health which is heritable is ever produced. Some few exceptions to this should perhaps be allowed when small-pox, measles, and the like appear to intensify the diathesis to scrofula, but they are probably of but little importance. The general law certainly is that a specific animal poison may breed in the blood, and may for the time produce most violent disturbance of the health of the individual, but its effects ceases after awhile, and ceases completely, and leaves the body unmodified with the exception that it is no longer liable to the influence of the same poison. This immunity lasts only during the life time of the individual, and cannot be transmitted excepting in an exceedingly slight degree. Even in the individual it is by no means complete or invariable. I am aware that there is an apparent exception to all this in the case of syphilis. I will speak of that directly, will also say a few words as to the limitation of the law of immunity of the individual. Before we pass to those topics, however, it may be well to ask attention to the strongly-marked differences which are to be observed between the states of health produced by the specific poisons and those which are due to inflammation from non-specific causes and which come under the law of intensification by habit.

In the development of such inflammations as those of erysipelas, diphtheria, elephantiasis, especially when not due to contagion, the constitution of the individual takes a large share, and the mere fact of their occurrence reveals his previous proclivity. The disease originates, in part it is from without, in part from within. It is not an instance of intrusion, but of development and the peculiarities of blood, tissue, or of nervous system are exactly those which are capable of increase. In the case of the exanthem, however, the body of the sufferer is in the main passive, and is acted upon by a poison which is intruded from without, and to which *nolens volens* his tissues must submit. The occurrence of the exanthem reveals nothing and intensifies nothing. It is from first to last a violence done from without by an external agent, and when its direct effects are over, the body may be supposed to return in all other respects to it original state. A man who has been set in the stocks is not especially likely to acquire the habit of going to sit there, nor does the man who has been burned, or who has broken his leg, there form any tissue proclivities. His tissues were in no sense consenting parties, and the laws of habit do not come into play. The possibility of second attacks and the absence of protection to offspring are facts which indicate that influence is only of transitory duration. As regards the life-long immunity of the individual conferred by an attack of an exanthem we may probably assume that it is neither complete nor universal.

Modified attacks may occur repeatedly in the same person, nor are second and fully developed ones unknown. Thus it is, I believe, a matter of general creed in the profession that when scarlet fever is in a house those who have gone through it before are liable to suffer from sore-throat without the rash, and that with measles, catarrh may in the same way denote a minor degree of protection. The modification of variola by vaccination, and also the limited duration of immunity, confessedly are facts too well known. Second attacks even of variola itself may, after a series of years. occur.

Remembering the length of time during which the effects of the syphilitic fever may persist, we might expect that it would prove more constantly protective the others. But the facts prove that we must not conjecture, but be content to observe. No one has, I believe, even categorically denied the possibility of second attacks of syphilis, but the opinion which almost universally prevailed a few years ago came very near to this conclusion. That, however, second infections with modified results are tolerably common, and second attacks with full development of all the phenomena not extremely rare, is, I feel, more like the truth. I have recently had under my care at one time three patients in whom it was certain that they were passing through second attacks. In more than one instance the patient has been under my own observation during both attacks. One of those which I have just referred to is a very remarkable case, on account of severity of both attacks. The patient, now a surgeon of almost forty-five years of age, had syphilis when a student. It was attended by a free rash, and was followed by various sequelæ. which he did not get rid of for three years. Then he married, and he now has healthy children. In the beginning of the present year he obtained by some accidental inoculation a chancre on the lip. It became very large, much indurated, and was attended by large glandular swellings. Subsequently a most copious eruption followed, and both in primary and secondary phenomena the case was as severe a one as I have seen for a long time. It may be that idiosyncrasy has something to do with this exceptional occurrence of liability during the individual's lifetime.

In one instance in which I attended a member of our own profession, thrice for syphilis, first when a student, and secondly, ten years later, the same person had, he assured me, twice had variola. In respect to vaccination, it is, I believe, well recognized that some persons lose its protective power much sooner than others. Those who, by an attack of an exanthem remain protected through life may be said in some sort to have acquired a diathesis. It is one, however, which, as I have already asserted, does not manifest itself by any active phenomena, nor is it one the influence of which extends to offspring; or if it does so, it is to an extent so small as to be almost inappreciable. It is a remarkable but undoubted fact that *quoad* the specific fevers the offspring of protected parents starts afresh. It may be, and probably is, the fact that in successive generations the tissues become to some extent habituated, and suffer less severely, but still they do suffer, and nothing approaching to immunity is perhaps ever observed.

I have been speaking of the non-inheritance of the negative diathesis induced by an attack of any one of the specific fevers, but it remains yet to say a few words as to my assertion that some of them produce an active diathesis which is heritable. The only exception to this which will be alleged is syphilis. I shall be asked "Is not the diathesis of syphilis often transmitted from parent to offspring?" No, certainly not. It is not the diathesis which results from the disease, but the germs of the disease itself that particular elements of the virus which are transmitted. It is transference, a form of contagion rather than hereditary transmission, which occurs. Two years ago I produced before you at some length evidence which point to this conclusion. Since then, by thought on the subject and the accumulation of more evidence, my opinions on this subject have been much strengthened. We well know that the danger of transmission to children has reference not to the state of health of the parents, but to the lapse of time which has occurred since the primary disease. We see cases in plenty in which parents whose children have been quite healthy subsequently afford conclusive proof that the diathesis still persists in themselves. Indeed, it is almost an acknowledged law that parents in the late tertiary stages do not transmit taint. On the contrary, when offspring are born in the secondary stage of the disease, especially in its early periods, it is a rule with exceedingly few exceptions that the disease is transferred. These facts strongly favor the belief that the inheritance of syphilis so-called is possible only while the fluids of the parent contain the living elements of the virus. These elements, in a large majority of cases, develope and go through the same stages as if inoculation had occurred at the time of birth. It is far more like contamination *in utero* than true inheritance. By contamination in this use of the word I mean that with sperm or germ of either or of both parents there passes the virus itself, the sperm or germ being itself unmodified, but simply the material medium of transference. In the case of the mother we know well that it is not necessary that the germ should have been infected at all, but that if her blood receive the virus even so late as the eighth month it will pass into that of the child also. Inherited syphilis, when produced under these last mentioned circumstances, runs exactly the same course as when derived from a parental taint which existed before conception.

A child then inherits syphilis in precisely the same sense and in precisely the same manner as it inherits small-pox. It inherits not the diathesis, but the disease. The reason why the inheritance of small-pox is very rare, whilst that of syphilis is unfortunately common, is simply that the period during which the virus is extant in the blood is very different in the two cases. The conspicuous facts then, with which we are all so familiar in reference to the syphilis of infants afford no proof that the diathesis of syphilis any more than of the other exanthemata is capable of transmission. It remains, however, for us to inquire whether there are other facts of a somewhat different kind which support the view which I have endeavored to combat. I am alluding, of course, to the old controversy as to whether some forms of struma, and especially such diseases as lupus, may not be modified forms of inherited syphilis.

My own belief is very strong indeed to the effect that they are not, but the facts are very detailed and very difficult to marshal concisely. My argument, if I have made it plain, has pointed to the conclusion that no minified transmission of syphilis is possible, that the child gets either nothing at all or the germs of the disease, and that in the latter case they will, subject to the laws of idiosncrasy, develope in all cases. Excepting as the results of vaccination or of a previous attack we know nothing of inherited small-pox, and it is probably the same with syphilis. Let me try briefly to state some facts on this question, and I will then leave it to your judgment. Nothing is more common than for parents who have themselves at some former time suffered from syphilis, to produce children who remain through life robust and in perfect health. Sometimes one or more of the family inherit syphilis, and suffer, it may be, severely, whilst others, and younger ones escape, and when this occurs the latter enjoy almost exceptional vigor. When I have seen a whole family of grown up children, the offspring of syphilitic parents, manifesting signs of cachexia, there has usually been reason to think either that all had actually suffered, or that the symptoms present in some were were not specific, but due to other causes. I have seen very numerous cases of lupus on the one hand, and of inherited syphilis in young persons on the other, and I never found the two things together, nor have I ever recognized in the subject of true lupus the brother or sister of one who had suffered from inherited syphilis.

Of the cases of lupus which I have seen, in a very great number there were the strongest possible reasons for denying the probability of syphilis in the parents. I have, of course, occasionally seen inherited syphilis and scrofula together in the same patient, but a large majority of those who suffer from the former never show any tendency whatever to the latter. In what I have said above I have been speaking, of course, of common lupus, and have wholly excluded that form of destructive ulceration which is sometimes mistaken for lupus, but which is, from beginning to end syphilitic, and is curable by specific treatment. I have taken lupus as being a type of disease, but what I have attested as regards it applies equally to other forms of scrofula, to psoriasis, and other diseases, which have been suspected as the remote consequences of specific taint. I believe that the domain of inherited syphilis is just as definite and just as restricted as that of the acquired disease, and that it stands a sponsor to none but its its own progeny.—*Medical Press.*

ESMARCH ON THE TREATMENT OF INJURIES OF THE BLOOD-VESSELS IN WAR.—The following is the substance of a paper read before the section of Military Surgery in the International Medical Congress held in London in August, 1881:

1. The indications for the treatment of injuries to the larger vessels, and for trumatic hemorrhage, have been materially simplified by antisepsis and artificial bloodlessness.
2. Ligature of the trunk of the artery above the wound, formerly practised, is uncertain, and therefore should be abandoned, especially when the tissues are infiltrated by inflammatory exudation.
3. Styptics should also be abandoned, since they are uncertain in their action, and, by rendering the wound dirty, retard its union.
4. In every case of hemorrhage threatening life, the injured vessel must, if possible, be laid bare at the injured spot, and tied above and below with catgut or antiseptic silk.
5. The operation must be conducted strictly antiseptically and, in the case of the extremities, by the aid of artificial bloodlessness (Esmarch's bandage).
6. The chief means of making such operations easy lies in making a long incision, which lengthens the wound in the long axis of the limb. When life is concerned, it matters little whether the incision be an inch or a foot long; as, if it succeed in checking hemorrhage, and thoroughly asceptically, a long incision heals just as well as a short one.
7. A proper incision having been made through the skin, the deeper tissues are laid open, the left forefinger being used as a director, upon which they are divided to the same extent by a blunt pointed bistoury. They are then held apart by either blunt or pointed hooks.
8. Coagulated blood is now quickly and energetically removed, either with fingers, sponges, or raspatories, and as thoroughly as if it were intended to make an elaborate dissection. The coagulated blood covers everything, and is a fertile soil for the noxious matters exciting inflammation.
9. This being accomplished, the vessels and nerves are felt for with the finger, and an endeavor is made to get some idea as to the injury by the aid of the cleansing sponge, with which arteries, viens, and nerves are isolated.
10. If the veins be quite bloodless and collapsed, it is difficult to distinguish them from cords of connective tissue; it is therefore advisable to form a reservoir of blood below the wound by placing a ligature round the hand, for example, before applying the elastic bandage to the arm. Afterward, on elevating the limb and removing the ligature, the blood flows out of the injured vein, if the vessel have been such.

11. If the injured part of artery or vein have been found and expose sufficiently to enable the whole extent to be seen, the vessel must be Isolated and tied, above and below the injury, in a healthy situation, securely and tightly, with catgut or antiseptic silk (reef-knot). The vessel, if not already divided by the injury, is then cut between the ligatures. If any branches be found between the ligatures, they are isolated and tied, and separated from the trunk of the vessel.

12. The tubing is now released, and all remaining vessels from which any blood issues are ligatured; the limb being elevated, as in amputations when the tubing has been removed, to lessen the parenchymatous bleeding.

13. Divided nerves and tendons, should they be found in the wound, are to be united by fine sutures of carbolized silk or catgut.

14. Foreign bodies *e. g.*, bullets, fragments of clothing, very loose bone splinters, should be carefully removed.

15. The whole wound is then disinfected most carefully by washing, rubbing and rinsing with solutions of chloride of zinc and carbolic acid, or iodoform spray. An endeavor must be made to penetrate into every crevice of the wound.

16. Counter-openings having been made in suitable situations, and drainage tubes introduced, the wound is closed by antiseptic dressing.

17. The performance of this operation is not suitable to the battle-field, because it requires much calmness, time and care; and because the antiseptic precautions can only be observed in a well-constructed lazaretto.

18. For provisional hæmostasis on the battle field, elastic compression is alone suitable.

19. The use of styptics is to be forbidden, therefore such articles as perchloride of iron, Pinghawar Yambi, etc., should be left out of the dressing materials.

20. Equally injurious and dangerous are the much used tourniquets, not only because they require a certain amount of anatomical knowledge in their application, but because the pad (be it ever so well adjusted) becomes displaced during transport, and so only checks the venous circulation instead of the arterial; the result being dangerous infiltration if the opening of the wound be closed, and recurrence of hemorrhage if it be open.

21. Satisfactory and lasting compression of the vessels is obtainable by an elastic tube or girth being drawn around the limb several times, tightly stretched. By this means the parts are so well drawn together that not a drop of blood can pass through the vessels.

22. No anatomical knowledge is requisite, as the compression is useful wherever undertaken. Displacement of tube or girth is impossible in transport if the ends have been well secured.

23. Tourniquets should therefore be replaced by elastic girths in the stores and in the dressing-bags of the men of the hospital corps.

24. Since caoutchouc suffers by being stored, and loses its elasticity, it is impossible to keep a store of these girths in the magazines; and, in the event of war, contracts would be badly carried out.

25. I have, therefore, given a necessary article of clothing the construction necessary for its double use as a brace and as an elastic tourniquet.

26. This tourniquet-brace consists of an India-rubber girth, 150 centimetres (nearly 2 feet) long, and is strong enough to compress every vessel in a limb at any point.

27. Since every soldier must have a pair of braces, and this one is not dearer than any other, the desire that each soldier should be so equipped in war is a reasonable one.

28. In this case every soldier would carry a means of checking a dangerous hemorrhage, in himself and others, on his own person. In a case of a severe injury he would, in any case, not require braces; and on the field of battle the braces of the dead and wounded could be removed in great numbers if necessary.

29. These braces might also be used for tying-off poisoned wounds, for procuring artificial bloodlessness in operations, and for the resuscitation of the apparently dead after severe losses of blood, etc.

30. It is a matter of course that every wounded man, in whom hemorrhage has been provisionally checked by the girth, should be brought to a lazaretto as soon as possible, in order that the compression may be there removed, and the definite ligature of the bleeding vessel carried out.

31. It is also of importance that, before applying the elastic tourniquet, the limb be bandaged in an elevated position; and, if bones be shattered, that these should be rendered immovable during transport, by means of splints, etc.—*Lon. Med. Rec.*

LIPOMA OF THE HAND.—M. Notta of Lisieux has operated upon a patient who presented himself six years ago with a rather large, soft and fluctuating tumor in the palm of his hand, which had been at first considered a cyst and punctured; but the puncture had no effect. The tumor was removed and proved to be a lipoma. The disease was consecutive to an abscess of the forearm which had healed readily under carbolized dressings.—*Journ. de Méd. et de Chirurg, July* 1882.

J. M. F.

ADMINISTRATION OF IRON.—The tincture of chloride of iron may be administered with safety to the teeth by enclosing it in a capsule of gelatin (Humphreys, in *Med. and Surg. Reporter*). A good method is that in use at the German Hospital, of combining the tincture with phosphoric acid, Curacoa cordial, and water, or the solution of the acetate of ammonia.

OBSTETRICS.

INGUINAL HERNIA OF THE OVARY.—Professor Rosati reports a case of inguinal hernia of an ovary resembling a strangulation of the intestine, where a removal was followed by restoration to health. A Florentine woman, forty-eight years of age, presented herself to his surgical clinic (*Presse médicale belge et Sperimentale*) for relief from a tumor situated in the left inguinal region and about the size of a large potato. This tumor, rather hard and somewhat nodular, offered slight fluctuation at the level of greatest prominence. There was also a painful spot aggravated by pressure, the pain radiating to the umbilicus and epigastrium. Reduction was easy, but the tumor reappeared immediately upon removal of the pressure.

According to a statement of the patient, her mother had been aware of the existence of the tumor from her birth. At first very small; it attained the size of a walnut.

The patient has menstruated regularly since fifteen years of age, and has been three times pregnant. The first and third pregnancies terminated normally, the second in an abortion at the third month. If is interesting to note that during the two normal pregnancies, and beginning with the seventh month the tumor passed up into the abdomen and remained there until delivery, permitting the patient to lay aside the bandage she was accustomed to wear.

Finally, a few days previous to the consultation, and just at the onset of menstruation, the patient was seized with a chill, accompanied by severe headache and a bad cough; the entire abdomen became painful and in a short time vomiting supervened.

Prof Rosati diagnosticated the malady as one of irreducable, congenital, inguinal hernia of of the omentum, and prescribed rest in the recumbent posture, low diet; morphine internally and applications of ice to the seat of pain. But after a few days the vomiting became more pronounced; the retention of feces was complete, and the surgeon had recourse to the operation for strangulated hernia. Arriving at a point of fluctuation which he supposed to be the hernial sac, he incised it with care and gave exit to a sticky fluid. The other prominences not communicating with this one were likewise incised. The pedicle of the tumor, extending up to the abdominal opening of the inguinal canal, was inucleated and the operator recognized that the tumor was riddled by little cysts. Certain by this time that he was dealing with the left ovary, he severed the pedicle between two ligatures of catgut, inserted a drainage tube and united the edges of the wound. The recovery was complete in a few days. Microscopic examination of the specimen confirmed the belief that it was ovarian. —*Jour. de Med. et de Chirurg, Prat.*, July, 1882.

J. M. F.

Drugs that Influence the Lacteal Secretion.—We will confine ourselves merely to the conclusions arrived at in a voluminous article upon this subject by Stumpf. The experiments were made upon a goat.

1. *Variations in the Quantity of the Milk.*—The iodide of potassium occasions a considerable diminution of the quantity of the lacteal secretion, while alcohol, morphine and lead exercise no influence upon it, any more than does pilocarpine. The influence of salicylic acid is doubtful.

2. *Variations in the Quality of the Milk.*—The iodide of potassium manifestly retards the glandular function; all the ingredients of the milk being altered at once. Lead, pilocarpine and morphine exercise no influence; salicylic acid appears to increase the quantity of sugar; alcoholic beverages increase the relative proportion of fluid and should be discarded as means of increasing the lacteal secretion.

3 *The Passage of Medicine Through the Milk.*—Iodine passes very readily through the milk, and disappears from the body immediately upon the suspension of its administration; from the herbivora this disappearance is less rapid. The proportion of the iodide of potassium voided with the urine is not constant, but varies with the individual. It is consequently impossible to make any therapeutic use of the "iodized" milk. The iodine exists in the milk, not as an alkaline iodide, but in combination with casine.

Alcohol does pass out through the milk of herbivora.

Lead passes in only an insignificant quantity, but it persists for a long time.

The same results were attained with salicylic acid.—(*Deutsch. Arch. f. klin. Med*) *Gazette Hebdomadaire de Med. et de Chirurgie*, July, 1882.

J. M. F.

Laparotomy.—Removal of Fœtus Eight Years after Conception.—M. Fort, Brazil, had a mulatto, aged 35, who presented herself to be relieved of a tumor which was not only inconvenient but prevented her from working and rendered life intolerable to her. Has had three children, but no pregnancy since she carries the tumor. The history is that she thought herself pregnant, eight years ago, and made all the necessary preparations for the time of delivery. The movements of the child ceased gradually, and there remained a tumor.

The tumor is hard, rock-like, presenting an irregular lower margin, under which the hand may be passed. The size is about that of an adult head.

The functions are regular and pain was the only symptom present justifying an operation. The uterus was normal and mobile. Laparotomy was performed on January 26th and February 18th she was discharged cured. On the day after the operation the breasts began swelling and on February 10th, she drew a half cup-full of milk.

The tumor contained a fœtus slightly atrophied and undergoing fatty degeneration. No trace of amniotic fluid. The amnios and chorion, the latter hypertrophied and more than 1 m.m. thick, form a complete envelope for the child and resemble a thick parchment and bridging all interstices of the fœtal parts gives the appearance of an irregular fibrous tumor to the whole.

This membrane was very adherent to the back of the fœtus. A small cord, like a string, extended from the umbilicus to the chorion, where could be seen filaments (remains of the placental vessels) spreading and diverging.

The fœtus was placed crosswise, head to the right, face forwards, strongly bent on the left side so that the knee touched the cheek. No ossification existed outside of the osseous skeleton. The case is rare. Attention is called to to the absence of any placenta and to the rapidity of recovery.—(*Gazette des Hôpiteaux.*) *St. Louis Medical and Surgical Journal.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, August 26th, 1882.

Miscellany.

TRI-STATE MEDICAL SOCIETY.—The Eighth Annual Meeting of this Society will be held at Terre Haute, Ind., September 26th, 27th and 28th. The following is the programme:

Tuesday Morning, Sept. 26th.

1. Reports of Officers and Committees.
2. President's Address.
3. Rationalism in Medicine, S. E. Munford, M.D., Princeton, Ind.
4. The Dosage of Medicine (15 min.), Henry Orendorff, M.D., Louisville, Ky.
5. Is the Child Legitimate? D. S. Booth, M.D., Sparta, Ill.

Tuesday Afternoon.

1. Quinine as a Therapeutic Agent, Wm. Lomax, M.D., Marion, Ind.
2. Malaria, J. L. Reat, M.D., Tuscola, Ill.
3. Malarial Hæmaturia, E. H. Luckett, M.D., Owensboro, Ky.
4. Origin of Heat in Fever, G. Wheeler Jones, M.D., Danville, Ill.
5. Iodine in Fever, C. P. Hunter, M.D., Springertown, Ill.
6. Report of Surgical Cases, J. W. Thompson, M.D., Paducah, Ky.
7. Lateral Curvature of the Spine, Ap. Morgan Vance, M.D., Louisville, Ky.

Tuesday Evening.

1. Ocular Therapeutics, J. L. Thompson, M.D., Indianapolis, Ind.
2. The Alkaloids in Diseases of the Eye, Wm. Cheatham, Louisville, Ky.
3. Cancer of the Larynx—Relative Value of; Tracheotomy and Extirpation in Treatment, H. H. Mudd, M.D., St. Louis, Mo.
4. Death from Pneumonia, H. V. Ferrell, M.D., Carterville, Ill.
5. Empyema, R. E. Beach, M.D., Vandalia, Ill.

Wednesday Morning.

1. Business Meeting.
2. Report on Peritonitis, Archd. Dixon, M.D., Henderson, Ky.
3. Strangulated Hernia, A. M. Owen, Evansville, Ind.
4. Cases of Abdominal Surgery, L. J. Willien, M.D., Terre Haute, Ind.
5. When is Colotomy Advisable? J. M. Matthews, M.D., Louisville, Ky.
6. Laparotomy, R. E. Haughton, M.D., Indianapolis, Ind.

Wednesday Afternoon.

1. Caffein in Headache, C. P. Johnson, M.D., Champaign, Ill.
2. Disorder of the Space Sense, J. S. Jewel, M.D., Chicago, Ill.
3. The Steton in Certain Nervous Diseases, John W. Holland, M.D., Louisville, Ky.
4. Pathology of Insanity, N. Field, M.D., Jeffersonville, Ind.
5. Small-pox, A. Milner, M.D., Grayville, Ill.
6. Vaccination, J. W. Compton, M.D., Evansville. Ind.
7. Vaccination, J. F. Hibberd, M.D., Richmond, Ind.

Wednesday Evening.

1. Lacerated Perineum, W. L. Barrett, M.D., St. Louis, Mo.
2. The Swathing Band, J. E. Stokes, M.D., Grayville, Ill.
3. Advisability of Producing Premature Labor in Placenta Previa, E. W. King, M.D., New Albany, Ind.
4. Midwifery—Its Difficulties and Dangers, S. H. Pearse, M.D., Mount Vernon, Ind.
5. Accidental Post-partum Hemorrhage, J. W. Pritchett, M.D., Madisonville, Ky.
6. Surgical Treatment of Uterine Fibroids, (15 min.) W. H. Wathen, M.D., Louisville, Ky.

Thursday Morning.

1. Report on Disinfectants, Louis Bauer, M.D., St. Louis, Mo.
2. Antiseptic Surgery, T. Whitten, M.D., Nokomis, Ill.
3. Alcohol as an Anæsthetic, Illustrated by a Case of Amputation of the Leg by Open Method, J. E. Link, M.D., Terre Haute, Ind.

4. Departures from Normal Development, H. C. Fairbrother, M.D., East St. Louis, Ill.

5. Development Period, Jno. P. Speed, M.D., Louisville, Ky.

6. Embryological Development, Richard Owen, M.D., New Harmony, Ind.

Thursday Afternoon.

1. Treatment of Fractures of Fore Arm, J. R. Comingor, M.D., Indianapolis, Ind.

2. Fractures of Distal Part of Leg, Heber Robarts, M.D., Carbondale, Ill.

3. Hip-joint Disease, W. M. Fuqua, M.D., Hopkinsville, Ky.

4. Trephining in Disease of Frontal Sinus, Wm. A. Byrd, M.D., Quincy, Ill.

5. Aneurism of Common Femoral, J. M. Holloway, M.D., Louisville, Ky.

Thursday Evening.

1. A New Stitch in Palotoplasty, David Prince, M.D., Jacksonville, Ill.

2. Use of the Suture Button, H. H. Clark, M.D., Danville, Ill.

3. Calomel in Infantile Diseases, M. Forsythe, M.D., Terre Haute, Ind.

4. Rapid Cure of Syphilis, Jno. Vertrees, M.D., Grayville, Ill.

5. Climatology, S. W. Marshall, M.D., Sparta, Ill.

Arrangements.

1. The sessions will be held in Dowling Hall.

2. Hotel rates for members at the Terre Haute House, $2.00, reduced from $3.00; at the National Hotel, $2.00, reduced from $2.50. Any other accommodations necessary will be arranged for by the Local Reception Committee.

3. Arrangements for special rates have been made with the railroads centering here and their connections, as follows: Vandalia Line, I. & St. L., C. & E. I., E. & T. H., L. & N., Ills. Central, W., St. L. & P., one and one-third fare for round trip. The P., C. & St. L., Cincinnati Southern, and I., B. & W. give round trip excursion rates by application to local agents.

Members of the profession, desiring to take advantage of these arrangements, will please apply to Dr. J. E. Link, Chairman of the Committee of Arrangements, who will furnish full particulars.

Members are requested to be present at the first session, as the regular business will begin without delay.

5. Each session will be called promptly.

6. Papers are limited by rule to twenty-five minutes.

7. Time for discussion will be given after each paper, or series of papers.

8. Authors, unavoidably absent, will send their papers to the Secretary during the first day of the meeting.

9. All physicians in attendance will, on arrival, apply for tickets of membership issued by the Secretary.

10. Volunteer papers are solicited, and arrangements will be made for their presentation.

Officers.—President, J. M. Holloway, M.D., Louisville, Ky.; Secretary, G. W. Burton, M.D., Mitchell, Ind.; Treasurer, F. W. Beard, M.D., Vincennes, Ind.; J. E. Link, M.D., Terre Haute, Ind., Chairman of Committee of Arrangements; Wm. Porter, M.D., St. Louis, Mo., Chairman of Committee of Programme.

Local Committee of Reception.—S. J. Young, M.D., J. D. Mitchell, M.D., L. J. Willien, M.D., W. H. Roberts, M.D., G. W. Crapo, M.D.

TRUE DISINFECTANTS.—Many a so-called disinfectant is employed to-day in a certain solution, when it does not possess any value whatever, under the circumstances. If it is really our intention to disinfect wounds, we must be certain, at least, that we will achieve our object with the remedy we use; if such is not the case, we only irritate without doing good.

The Imperial Board of Health of Berlin has published a number of experiments which have been made by Dr. Koch, with the view of establishing the real value of many so-called disinfectants. It would lead us too far to give the whole procedure employed to ascertain the facts mentioned, and we will, therefore, confine ourselves to giving the more important results of the investigations of this celebrated physician.

Most surgeons have been satisfied to wash their hands and to clean their instruments with a two per cent solution of carbolic acid. Such a solution is almost inert, and a five per cent solution is necessary to achieve the desired object.

But what is the most interesting is the fact that *carbolic acid dissolved in oil or water proved itself totally inert!* What do our surgeons who still make use of so-called carbolized oil say to that? Koch found that carbolic acid, when dissolved in oil or in alcohol, had not the slightest influence on the vitality of any of the micrococci or bacilli.

Concerning sulphurous acid, it was found to be powerless against spores; bacilli and micrococci, when exposed to the fumes in a box, were killed within twenty minutes, but were very little influenced, or not all, when exposed to the fumes in a room at the usual temperature.

Chloride of zinc showed itself just as harmless. A five per cent solution exerted absolutely no influence on the spores of anthrax, notwithstanding the same had been exposed to the action of the remedy for a period of thirty days.

Of other drugs, the spores of the bacilli were killed by chlorine water; fresh prepared; two per cent bromine water, one per cent aqueous solution of corrosive sublimate, five per cent solution of permanganate of potassium, one per cent osmic acid, within one day; formic acid, four days; ol. terebinth, five days; solution of chloride of iron, four days; one per cent arsenious acid, one per cent quinine (water with muriatic acid), two per cent muriatic acid, within ten days; ether within thirty days.

Inert or possessing very little influence: distilled water, alcohol, glycerin, oil, sulphur-carbon, chloroform, benzol, petroleum-ether, ammonia, concentrated solution of common salt, bromide and iodide of potassium, 1 per cent sulphuric acid, sulphate of zinc and copper, alum, 1 per cent permang. of potash, chromic acid, the chromates and bichromates, chlorate of potash 5 per cent, boracic acid 5 per cent, acetic acid 5 per cent, tannic acid 5 per cent, benzoate of sodium 5 per cent, quinine (2 per cent, in water 40, alcohol 60, iodine) (1 per cent in alcohol), thymol (5 per cent. in alcohol), salicylic acid (per cent in alcohol, 2 per cent in oil.)

As regards remedies which prevent the further development of spores, the following results were obtained. The first number means retarding the development, the rest totally preventing it:

Corrosive sublimate,	1 : 1,600,000	1 : 320,000
Oil of sinapis,	1 : 330,000	1 : 33,000
Arsenite of potash,	1 : 100,000	1 : 10,000
Thymol,	1 : 80,000	
Ol. terebinth,	1 : 75,000	
Hydrocyanic acid,	1 : 40,000	1 : 8,000
Oil of peppermint,	1 : 33,000	
Chromic acid,	1 : 10,000	1 : 5,000
Picric acid,	1 : 10,000	1 : 5,000
Iodine,	1 : 5,000	
Salicylic acid,	1 : 3.300	1 : 1,500
Permang. of pot.,	1 : 3,000	
Muriatic acid,	1 : 2,500	1 : 1,700
Camphor,	1 : 2.500	
Eucalyptol,	1 : 2,500	
Benzonic acid,	1 : 2.000	
Borax,	1 : 2,000	1 : 700
Carbolic acid,	1 : 1,250	1 : 300

But as, for purposes of disinfection, the micro-organism must be killed, and in the shortest possible period, and the effect of retarding the develment of the spores (antiseptic) is not sufficient, only the following remedies can, according to Koch's experiments, be said to be of value: corrosive sublimate, chlorine, bromine, iodine. Bromine in form of vapor is, as concerns rapidity of action, superior to chlorine and iodine.—*Medical and Surgical Reporter.*

THE BACILLUS OF TUBERCLE. — In reply to many questions which have been addressed to us on this subject, we may say the bacilli of tubercle discovered by Dr. Koch are observed with difficulty, if his method of preparation be adopted. Dr. Ehrlich has devised a mode of preparation, recently modified by Professor Rindfleisch of Würzburg, by which their presence is more easily detected than by any other hitherto made known. In doubtful cases, this mode of preparation may serve as a valuable agent in diagnosis. In treating the sputum of phthisical patients, or the matter resulting from scraping a tubercle, the thin layer necessary for examination is obtained by placing a small quantity of the matter between two cover-glasses, which are gently pressed together, and easily separated by sliding one over the other. The cover-glasses are then gently heated during a few seconds over a gas-flame, or, what is preferable, they are placed in a stove heated at 100° Cent. (212° Fahr.), for the purpose of coagulating the albumen. Afterward, they are placed in alkaline solution of fuchsine (the fuchsine used is only soluble in alcohol), or in violet methylaniline prepared as follows: A mixture of five parts of oil of paraffine and four parts of distilled water is well shaken for some time; then filtered through a damp paper. The filtering gives several cubic centimetres of liquid, to which are added some drops of concentrated solution of aniline. This alkaline solution and the cover-glasses are placed in a cup with a glass cover. The cup, with its contents, is kept half an hour in a stove heated to 40° Cent. (104° Fahr.) The next step is to let the mixture drain off the cover-glasses by gently shaking them. They are then washed in water containing 2 to 3 per cent. of nitric acid, and afterwards in distilled water. The preparation is then mounted in gum dissolved in glycerine, to which is added a small quantity of arsenious acid to prevent the development of fungi; or carefully dried in ordinary Canada balsam, and examined with the Abey illuminating apparatus and homogeneous immersion. Sections of tubercle hardened only in alcohol are treated in the same way, with the necessary modifications.—*Brit. Med. Jour.*

EFFECTS OF MALARIA ON MAN.—In addition to the direct effects of malaria, a diathetic condition seems to be established which modifies other diseases. The effects of malaria are, indeed, most protean in form, not only in its own definite and well-marked pathological process, but it simulates others. The stupor of typhus, the collapse of cholera, the high temperature of insolation, the sickness of an irritant poison, the convulsions of epilepsy or of dentition, may occur in the pernicious forms. It induces anæmia and general cachexia, with structural changes in the liver, spleen, or other viscera, neuralgia, asthma, and various other symptoms of disturbed innervation and sanguification, and it also appears to be in close etiology with dysentery, cholera, diarrhœa, beriberi, hydrocele, elephantiasis, bronchocele and hepatic disease. Whatever its nature may be, its action on the human economy is very striking; it affects the central nervous system, causing disturbance of vaso-action, action, paroxysms of fever, and congestion of the abdominal viscera, which may become periodic in recurrence, or pass on to structural changes in the liver and spleen, or intestinal mucous membrane. No one can have resided long in a malarious climate, such as Assam, without observing the cachectic, deteriorated aspect of the people, who, although they may never have had a single attack of fever, scarcely feel ill, and would resent being told so, are yet victims to the insidious action of the poison, and present evidences of anæmia, degenerate tissue and chronic visceral disease.—Croonian Lectures. Sir Joseph Fayrer, M.D., F.R.C.S., in *Chicago Medical Journal and Examiner.*

A COMMON MISTAKE CONCERNING CHLORIDE OF POTASSIUM.—It is well known that chlorate of potassium is a very good remedy to gargle the throat, but comparatively few physicians are aware of the fact that it is not this remedy which is so successful in mercurial stomatitis, but chloride of potassium.

Prof. Wertheim draws the attention of physicians especially to this fact (*Wiener Med. Blätter*, 15, 1882). He reminds them that the formula of the first is, $KClO_3$. but that of the second KCl. He says that the chlorate should never be used, as in concentrated solution it may even prove very harmful; while the chloride is very innocent; a specific in sore throat, and especially in mercurial sore mouth, and very analogous to common salt, which is simply a chloride of sodium, instead of potassium. In America, the chlorate is commonly used; no wonder, therefore, that it is not found here as efficient as in France and Germany, where they use the chloride.—*Med. and Surg. Reporter.*

Kid-Glove Charlatanism.—In its common forms, quackery is easily recognized. One has but to take up a newspaper to observe its slimy trail. Advertisements of private diseases and cure-all specifics, especially if adorned with a figure head such as that of the fabulous Saint Jacob or the female of dubious sex called Pinkham, reveal the true character of the unprincipled quack. But there is another form of quackery, or more properly charlatanism, which occupies high places and is not without scientific attainments. Its representative is mostly a foreigner. In its native land he has gained an enviable reputation and may have been an honored explorer of science. He comes to America with laurels on his brow. Americans make obeisance to him as is their wont. He sees an opportunity to turn his position into gold, and employs some of his professional brethren to boost him into popular notice through public lectures or exhibitions. Kind-hearted men! they do not discover till too late that they are but giving eclat to an arrant charlatan whose right hand is pulling wool over the eyes of the "very elect," while the left is peddling nostrums at a dollar a bottle. More than one instance of this description is well known to the profession in San Francisco. Quackery may be more rife in America than in Europe, and there may be more of the Buchanan stripe of doctors. But after all Europe out-Yankees the Yankees in the breeding of scientific, genteel, polished and adroit quacks. Again and again have we been astonished to observe the utter recklessness with which men of distinction and honor in their European home, sell out their very souls when they come to this country and sacrifice every thing to the "*auri sacra fames.*"—*Pacific Med. and Surg. Journal.*

Effects of Irritating the Encephalon.—At a recent meeting of the Paris Biological Society, M. Brown-Séquard communicated "some facts to show that the movements produced by irritating different parts of the encephalon are unlike those which ought to occur, in accordance with the accepted theories concerning the cerebro-spinal motor and sensitive apparatuses. In 1879, Dr. Brown-Séquard published, in the *Archives de Physiologie*, the results of experiments which demonstrated that irritating the base of the encephalon determined movements of the limbs on the side corresponding to that on which the encephalon was irritated. If the medulla oblongata be irritated, the above result is repeated nine times out of ten; but its frequency gradually lessens when the irritation is applied higher, that is to say, beginning at the medulla oblongata, and continued towards the corpus striatum. Dr. Brown-Séquard now adds further facts. Irritating the anterior pyramid determines movements of the limbs on the side of the body which corresponds to that irritated. Sometimes the movements are limited to one limb, the arm or the leg. He concludes that the nerve-elements, after passing to the opposite side of the spinal cord, return again, and thus produce the movements observed. Irritating the two surfaces presented by a transverse section of a lateral half of the base of the encephalon, results most generally in the occurrence of movements of one or both limbs on the corresponding side of the body.—*British Med. Journal.*

The Notification of Infectious Disease.—The agitation against an extension of the law by which physicians are liable to be fined or locked up if they omit to report their cases of infectious disease to the sanitarians, is growing rapidly in England. Meetings have been held in several important towns for the purpose of backing up the new "Association for preventing the extension of the system," which Association has been recently formed in Liverpool under the presidency of Dr. Carter.

We hear that Sheffield has now taken up arms against compulsory notification, and will shortly hold a demonstration on the subject.—*Medical Press.*

Notification of Infectious Diseases.—A meeting of the medical profession of Sheffield and the neighborhood was held at Sheffield, on August 1st, to consider Mr. Hastings' Bill relating to compulsory notification of infectious diseases. Dr. de Bartolomé was in the chair and forty-one members of the profession were present. The following resolutions were passed, with only three dissentients: 1. "That this meeting views with entire disapprobation the proposal to compel medical men, without any discretionary power, to report cases of infectious disease to the sanitary authorities, feeling it to be an unwise interference with the relations in which medical men stand to their patients." 2. "That a petition, embodying the views of the previous resolution, be drawn up, signed, and presented through our members to the House of Commons, and to the forthcoming meeting of the British Medical Association at Worcester; and that a deputation, consisting of the Chairman, Mr. Favell, Dr. Keeling, Mr. Arthur Jackson, and Dr. Cleaver, wait upon the Mayor to explain the views of the meeting." An amendment to the following effect was moved by Mr. Sykes, medical officer of health at Mexborough, but only found three supporters, including the mover and seconder: "That it is desirable in the interests of sanitary science, that Mr. Hastings' Bill become a law."—*British Medical Journal.*

The *North American Review* for September has for its leading article a very forcible presentment, by Dorman B. Eaton, of the evils produced by the practice of levying "Political Assessments." "Oaths in Legal Proceedings," by Judge Edward A. Thomas, is a discussion of the question whether the interests of morality and of public justice alike, would not be promoted by the abrogation of all laws requiring testimony to be given under the sanction of an oath. Thompson B. Maury, late of the Signal Office, contributes an article on "Tornadoes and their Causes," which, in addition to its scientific interest, possesses the merit of suggesting many practical measures for averting disasters to life and property from windstorms. "Architecture in America," by Clarence Cook, is marked by a freedom of utterance that is refreshing. In this respect it deserves to rank with Commander Gorringe's celebrated paper on the United States Navy. Augustus G. Cobb writes of "Earth-Burial and Cremation." The *Review* is sold by booksellers and newsdealers generally.

OBJECTIONABLE ANÆSTHESIA. — Western women are sharp; but the Plattsmouth (Neb.) female is entitled to the premium for smartness. The other day she went into a shoe store to buy a pair of shoes. The clerk was in the act of sprinkling some chalk-powder inside, so they might slip on easily. She glanced furtively at him and remarked: "I know what you are doing." The genial clerk smiled acquiescence. She slid toward the door, and said, in tones that startled his nerves: "You can't chloroform me, mister; I was fooled once before, and I'm blamed if I'll be again. And she left without the shoes.

TO KEEP FLIES FROM HORSES.—The *Indiana Farmer* advises its readers to procure a bunch of smart-weed and bruise it to cause the juice to exude. Rub the animal thoroughly with the bunch of the bruised weed, especially on the legs, neck and ears. Neither flies or insects will trouble him for twenty-four hours. The process should be repeated every day. A very convenient way of using it is to make a strong infusion by boiling the weed a few minutes in water. When cold it can be conveniently applied with a sponge or brush. Smart-weed is found growing in every section of the country, usually in wet ground near highways.—*Journal of Comparative Medicine and Surgery.*

TO CLEAN BRASS.—The government method prescribed for cleaning brass, and in use at all the United States arsenals, is claimed to be the best in the world. The plan is to make a mixture of one part common nitric acid and one-half part sulphuric acid in a stone jar, having also ready a pail of fresh water and a box of sawdust. The articles to be treated are dipped into the acid, then removed into the water, and finally rubbed with sawdust. This immediately changes them to a brilliant color. If the brass has become greasy, it is first dipped in a strong solution of potash and soda in warm water; this cuts the grease, so that the acid has free power to act.

SURGICAL TREATMENT OF OZENA.—The plan of treatment for chronic nasal catarrh which appears to be growing into favor, consists in the extirpation of the part affected, which is generally in the region of the turbinated bones. Several methods of extirpation are proposed, but the best surgeons incline to the use of a snare, together with the ecraseur.

MICROCOCCI OF LUPUS.—Dr. M. Schüller has been able to detect in the smaller papulæ of lupus micrococci. They are absorbed in the large papules too, but it is difficult to find them there. They were never absent in the sebaceous glands in the region attacked by the disease. This fact would seem to explain the good results which have been gained by the local application of pure carbolic acid.—*Med. and Surg. Reporter.*

AMERICAN ACADEMY OF MEDICINE.—At a recent meeting of the Council, the annual meeting of the Academy was postponed until Thursday, October 26th, when it will be held at Philadelphia, at the time of the Bi-Centennial Celebration in that city.—J. Dunglison, Secretary.

Bibliography.

PHILLIPS' MATERIA MEDICA AND THERAPEUTICS.[1]

Dr. Phillips has been indeed very unfortunate in regard to the publication of his work. The former part of it, viz.: that on the Vegetable Kingdom, was published in Wood's Library of Standard Medical Authors for 1879, in a very much abridged form, all crowded within the covers of one small volume. Since that time the completion of the work was rendered impossible by the illness of the author, and is only now presented to us as the April and May issues of Wood's Library for the present year.

The author's text is this time produced entire, with all additions by the American Editor, which are not numerous, included within brackets.

The present volumes are in most respects well up to the times, and there are in them certain peculiarities which are in their favor. The author has endeavored to combine, as much as possible, pharmacology and therapeutics, believing such combination to be of great advantage to both practitioner and student.

The style of composition is plain and interesting, and in addition to an extensive review of the literature of the various subjects a very considerable amount of original testimony is given from the author's individual experience.

The chapter on Water is especially complete and includes all the more important mineral waters of Europe. We should perhaps mention also those on iron, mercury, arsenic, etc., as highly meritorious.

We have been much surprised, however, to find no articles on the anæsthetic agents which now form chapters of so great importance in all our modern text-books on materia medica. This omission is all the more noticeable since so many unofficinal remedies are included. Otherwise the work is a very creditable production and is a valuable addition to the Library of Standard Authors.

The volumes are printed upon good paper, from beautifully clear type, and are substantially bound. J. M. F.

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[1] Inorganic Substances. By Chas. D. F. Phillips, M.D., M.R.C.P.E. Edited and adapted to the U.S. Pharmacopeia by Laurence Johnson, A.M., M.D. Two volumes. New York: William Wood & Co. 1882.

Original Communications.

ON THE PECULIAR SYMPTOMS OF ARSENICAL POISONING PRODUCED BY INHALATION.

By Francis Wardropes, M. D., M.R.C.S.L.,
Lexington, Ky.

Not being cognizant of any report of the symptoms or treatment of such cases, I offer the following observations for publication. Three ladies of Fayette County, Ky., assembled together to paper a room, which was rather close. The paper was composed of about one-fourth of green paint (arsenite of copper). In a few days afterwards I was called upon to attend two of them. The first one suffered from the most intense headache and catarrhal symptoms, recovered slowly, was much debilitated, and, as she remarked, "had never suffered in such a manner before from a cold." The second lady had similar symptoms and gastro-enteric disorder added, also great pain in the back, there was no abnormal heat. I made no diagnosis of these cases; saw the first case twice, the second case four or five times; they made a slow recovery.

In a few days I was called to the third case and in the third and fourth cases the interest lies. Mrs. Buford, of Fayette County, Ky., was attacked a week after the others, and the symptoms were entirely different, viz.: a periodical headache of the greatest intensity, commencing at daylight and terminating about 4 o'clock p.m. with excruciating pains in the frontal branch of the first division and the auricles and temporal branches of the third division of the fifth pair of nerves, also in the branch of the spinal accessory supplying the sterno-cleido mastoid muscle. For four days I remained six hours daily with this lady, endeavoring to mitigate her sufferings with large doses of quinine and morphine, the external use of chloroform and Greenville's liniment and the inhalation of chloroform without avail. Tears streamed copiously from the eye of the affected side, which was left. On the fifth day, during the paroxysm, after it had existed some hours, tartar emetic was administered, and a more potent remedy for suffering was never used than it was in this case and the subsequent one. As soon as its effects were well developed the pain ceased. I had now made the diagnosis of arsenical poisoning and commenced to use medicine for its elimination which was effected in about three or four weeks. The intermittent neuralgia lasted for about two weeks. After the remedy was discovered it could always be prevented by using the tartar emetic before its approach, which was frequently done. It was frequently omitted on the supposition that the complaint was over. The pain in the different nerves disappeared separately. The scalp was exquisitely tender during the paroxysm and pressure on the occipital protuberance produced great pain in the various nerves affected.

The fourth case demonstrates that this peculiar intermittent neuralgia is not very exceptional, as it occurred in two cases out of four.

About two years after the occurrence of these cases I was called to attend in her confinement Mrs. Clarke Arnett, of Woodford County, Ky. She complained of headache and had done so two or three evenings previously. As usual with her she had a rapid favorable labor. In about three evenings afterwards I was sent for. She had had a periodical headache, commencing at 5 p.m., which did not terminate until morning, also tenderness of scalp. I was struck with its pecularity which cannot be described, and on investigation I learned that about ten days previously she had placed on a shelf close to her face a pot of green paint, and scraped it with a piece of tin to clean it before using it. Here was the inhalation. Tartar emetic was immediately administered with happy results. It is not claimed that tartar emetic is curative only to the arrest of the paroxysm, which was prevented either by its administration fifteen minutes before the period or relieved on its advent. It should be given to the extent of emesis. The proper remedies for elimination of the poison were used which required some time.

Selections.

MEDICINE.

The Presence of the Micrococcus in the Blood of Malignant Measles: Its Importance in Treatment.—Read before the College of Physicians, of Philadelphia, June 7, 1882, by John M. Keating, M.D.

I propose to present for your consideration this evening the report of a recent epidemic in the Children's Asylum of the Philadelphia Hospital. The ward in which the disease first showed itself contained children between the ages of two and three years; some of them had been deserted by their mothers, and others had been placed there temporarily whilst the mothers were employed in duties about the establishment. For the most part these children presented a fair appearance of health; they were seemingly well nourished, of good development, though probably they would have been classed as "strumous," if their large features and tendency to glandular enlargements and eczematous eruptions had received careful attention. Together with all children of this class, living in asylums, they certainly presented an open field for the production of those complications that are usually such fatal attendants upon measles.

In order to save time, I shall in this paper simply narrate the history of the cases. The little patients were zealously cared for by Dr. H. E. Campbell, Resident Physician, to whom I am indebted for the record of the notes taken at each of my visits.

I shall also embody in this report the investigation undertaken by Dr. Henry E. Formad, now well known as the patient and thorough investigator of the microscopic appearance of the blood in diphtheria, associated with Dr. H. C. Wood, under the auspices of the National Board of Health. Dr. Formad examined almost daily the blood of each little patient, and together we noted the presence of micrococci in the malignant cases, and their absence in those of mild type. A record of these examinations was kept by Dr. W. A. Edwards, Assistant Pathologist, as also the records of the post-mortem examinations, and to him I am indebted for them. We entered this study with no preconceived views: the rapidity with which this exceedingly fatal epidemic came upon us necessitated careful study in order to attempt, if possible, to discover its cause. I present also some photographs, which show well the appearance of the field in these cases.

Case I.—J. F., aged two years and three months, was taken sick April 12, 1882. There had been no cases of well-defined measles in the house at that time, although it was epidemic in the city. The child had a sore throat, some cough, with fever. The throat-eruption was punctated and well marked. The child died in convulsions April 15, 1882.

Autopsy.—An ante-mortem (chicken-fat) clot was found in the right heart, extending into the pulmonary artery. There was great systemic venous engorgement. A decided staining was noticed upon the cadaver, especially about the temple, which caused the remark that the disease was probably one of the exanthemata. This child had been placed upon carbonate of ammonia, quinia, and digitalis; had had bromide of potassium, hot baths and stimulants in small quantities.

Case II.—M. J., aged three years and five months, was taken sick April 6, 1882. A slight eruption on the face was noted April 11, 1882; the next day the eruption was complete over the entire body. In this case the eruption was irregular, was decidedly that of measles, but of malignant type. Still, she did well until April 17, 1882, when suddenly the breathing became harsh, and pulse was rapid. At 4:30 p.m. had an attack of suffocation, with rapid feeble pulse. There was general venous engorgement; the face and lips were purple; pulse growing more rapid. Hot baths with mustard and friction were used, and carbonate of ammonia and digitalis given. It was suggested to bleed in this case, but the evidences of heart-clot were so marked, and the child had exhibited so many evidences of malignancy at the onset, that baths were used instead. April 11, 1882, at three a.m., she was still growing worse despite treatment, and shortly after had a violent convulsion and died.

There was no autopsy permitted.

Case III.—A. G., æt. sixteen months. Took sick April 15, 1882:

April 16 had prodromes of measles. The temperature and pulse ran as follows:

16th. p.m. 102°.
17th. a.m. 101°, p.m. 103°, pulse 180.
18th. a.m. 102°, p.m. 103°, pulse 180.
19th. a.m, 101°, p.m. 102°, pulse 160.
20th. a.m. 101°, p.m. 102°, pulse 148,
21st. a.m. 100°, p.m. 100°, pulse 180.

In this case no defined eruption appeared on the body, although there was a decided papular eruption on the uvula and anterior half arches of the throat. Whilst showing this case to the class, we noted streaks of grayish membrane in the fauces. The child had decided bronchitis, and the voice showed that the laryngeal mucous membrane was also affected. This child was not at that time very ill. There was no question in our minds at the time that it was effected severely by the measles poison,—that it was, in fact, another malignant case. It was carefully watched, the nourishment regularly given with quinia and iron daily, as was customary in all the cases.

On the 21st the breathing was noted as peculiar (I shall describe it hereafter). An emetic was ordered of ipecac, fearing an accumulation of mucus from the bronchitis present, and also carbonate of ammonia and digitalis and hot foot-baths were given. The child's intelligence seemed good, and it will be noted that the temperature was but 100°, while the pulse was 180.

At eight p.m. a second attack of suffocation occurred, and the child died in violent convulsions. The venous engorgement was very marked.

Autopsy.—A. G., baby, aged one year. Post-mortem examination held ten hours after death.

Heart. Left side and valves all normal.

Right side. A large ante-mortem clot filling the cavity of the right ventricle, and extending into the auricle; a clot was seen in the pulmonary artery.

Lungs. Left, normal.

Right lung. At the base of this lung the lesions of pulmonary congestion were seen, especially where the lung approximates the diaphragm.

Intestines. Slightly congested and hyperæmic.

Mesenteric glands. Enlarged and infiltrated by simple congestion.

Kidneys. Normal.

Blood. Taken from the heart cavity as soon as it was opened and examined showed micrococci in the liquor sanguinis and in the white blood-corpuscles.

Case IV. J. F. McH., æt. twenty-three months. This child had a typical attack of measles. The case was shown to my ward class several times throughout its course, the eruption was studied carefully in all of its details, and my friend Dr. John M. Taylor obtained for me an excellent representation of the measles in water-colors from this case. I refer especially to these points as evidence that the epidemic was one of measles; the cases heretofore were so irregular as to leave room for doubt to those hearing the recital of their histories. The eruption was rapidly disappearing, and desquamation had set in. April 21 the bronchitis seemed to be aggravated, the respirations were thirty-six, and expirations seemed to be unusually prolonged. The breathing was noisy; the heart's action was rapid, pulse 148. Suddenly, in the evening, an attack of suffocation came on, which was relieved by an inhalation of nitrite of amyl. On the morning of April 22 the heart was beating 168; the venous engorgement was very marked, the jugular veins standing out like whip-cords, the respirations were from 36 to 40, but the temperature was 99°. I saw the child at this time, and noted the gasping breathing, the feeble pulse, and the tumultuous action of the heart. There seemed to be capillary spasm, judging from the gasping breath, the imploring look which the child gave to all its attendants, and we at once gave an inhalation of nitrite of amyl. In a few minutes it seemed relieved. The administration of carbonate of ammonia, digitalis, hot baths, etc., was rigidly adhered to. The child seemed comfortable until 4.30 p.m., when it had another attack of milder character, though longer duration, and in it finally died of convulsions. It was observed, says Dr. Campbell in his notes, that the convulsion was not as severe as in the previous cases.

Autopsy.—J. F. McH., post-mortem made twenty hours after death.

Eruption not well marked.

Heart. Right ventricle contained a small antemortem clot. This clot was in the cavity of the ventricle, and did not involve the valves, either tricuspid or pulmonary. The left side of the heart was normal in every respect; contained no clot.

Lungs. Normal, with the exception of hypostatic congestion at both bases. The pulmonary and costal pleura of the left side were inflamed and adherent in some places.

Trachea. Inflamed, and containing a tenacious mucous secretion.

Larynx. Inflamed and hyperæmic.

Liver. Normal.

Intestines. Peyer's patches and the solitary and agminated glands infiltrated and hyperæmic.

Mesenteric glands. Enlarged and infiltrated; they were about the size of a grain of corn.

Kidneys. Normal.

Spleen. Amyloid bodies enlarged until they presented almost the appearance seen in a tubercular spleen.

Blood. Taken from heart as soon as punctured. Micrococci were found in the liquor sanguinis and in the white blood-corpuscles, and they were mobile. In the corpuscles they were seen in great numbers in active movements of a vibratory or whirling character, and they appeared to have devoured the white cells. No bacilli were seen.

Case V.—J. McG., æt. 26 months. Ordinary case of measles. The eruption had disappeared on or before April 15.

April 22. Child restless; marked bronchitis; cough paroxysmal upon waking, especially after excitement; mucous rales coarse, and fine throughout lungs posteriorly; throat congested and saliva at times tinged with blood. At this date the breathing was noted as noisy. Pulse 144, respirations 32, temperature 100°.

April 23. Mucous rales, becoming general, and not limited to areas as heretofore; pulse 152; respirations 34, temperature 101°. In addition to the tonic and stimulating treatment, mustard poultices were applied to thorax and hot baths frequently given. Carbonate of ammonia was given now, gr. ij. every hour, and bisulphate of quinia by suppository, gr. ij, every three hours. In addition to this, the child was given, as were all the others, milk and lime-water, beef-tea, etc., at frequent intervals. We also used in this case the frequent administration of small doses of syr. ipecac to relieve the secretion, which was abundant and tenacious.

April 33. Evening. Pulse was rapid, 160 to 170; temperature 102½; breathing becoming labored and gasping (fish-like); venous stasis was becoming more marked. Increased the whisky to about one ounce a day. The attacks of suffocation continued paroxysmally; the jugular veins stood out like cords at times. Nitrite of amyl gave immediate relief, but relapse soon followed; it was always followed by free emesis, which seemed to be in itself beneficial. About midnight a severe paroxysm came on, and with it a convulsion, in which the child died. After death the venous engorgement was more marked, and heart-clot had been suspected for some time before. This little patient was the first case whose blood Dr. Formad examined during life.

The view of the fluid was photographed; micrococci were found in great abundance, acting especially on the white corpuscles. The blood was examined very shortly before the child's death, when the symptoms of heart-clot had been fairly established, and the case declared hopeless.

Unfortunately, no autopsy was permitted in this case.

Case VI. E. M., aged 2½ years. This case ran a course as did the others, and I will only occupy time with a description of the post-mortem appearances.

Eruption well marked on mucous membrane of buccal cavity, not so on cutaneous surface.

Upon laying the throrax open, lungs found to be anæmic, as far as arterial circulation was concerned. but damned up with venous blood.

Heart. Normal in size and weight.

Right side. Contained a clot extending along the pulmonary artery for some distance; it was chicken-fat in consistence.

Left side. Normal.

Spleen. Congested; weight four ounces.

Intestines. Along the small intestine could be seen a few Peyer's patches inflamed, and well outlined against the comparatively normal gut. The mesenteric glands presented a very good example of enlargement and infiltration; they looked like so many peas scattered throughout the mesentery.

Liver. Normal.

Kidneys. Normal.

Brain. Not examined.

Blood. Taken from heart-cavity as soon as it was open showed micrococci in the liquor sanguinis and in the white blood-corpuscles, in abundance; they were not mobile. A number of zoogloea masses were seen.

Case VII. C. M., aged 2½ years. The eruption in the throat of this child was very well marked. A few cresentic points appeared in the temples, and the case rapidly developed maliggant symptoms.

April 21. Slight grayish suspicious patches of membrane are seated in the throat. The child is hoarse, and there is much bronchitis.

April 22. Pulse rapid; respiration 28; breathing irregular. There is great general venous stasis, the skin dark and mottled.

Dr. Formad examined the blood microscopically, and found it full of micrococci. He took a specimen sample for photography. Prognosis very unfavorable, as the child has fluttering heart and gasping breathing. Hot baths had been suggested early in the disease.

After consultation with Dr. Formad, the account of which I incorporate in summary, it was concluded to give at once ʒij of whisky, and repeat it every hour; milk was continued as the only other food.

April. 24. Pulse 144, temperature 101°, respiration 48. Circulation much improved. Venous engorgement relieved; breathing greatly improved. The child continued to improve during the day. At the end of the twenty-four hours it had taken six ounces of whisky, and yet it showed no effects of alcoholism. At noon the pulse was 140, respiration 36; six p.m. pulse 132, respiration 26, and regular, breathing easy, though somewhat noisy, but not harsh.

April 25. a.m., temperature 98°, pulse 128, respiration 26; p.m., temperature 98°, pulse 108, respiration 24.

April 26. a.m., temperature 98°, pulse 96, respiration 23; p.m., temperature 98°, pulse 104, respiration 24.

The respirations remained regular, and the child continued to improve. After the examination of the blood on April 39, owing to the relative increase of the white corpuscles it was decided to give Fowler's solution of arsenic, gtt. ij, three times daily. The large dose of whisky were kept up for three or four days, and gradually diminished.

I give Dr. Formad's reports, which he kindly wrote out for me:

Microscopic examination of the blood in the above case. (Examination made with a one-sixteenth immersion lens.

Examination April 22.—Blood full of micrococci (sphero-bacteria), affecting many of the white blood corpuscles; also a large quantity of these fungi free and in various forms of grouping, mostly in zoogloea masses. White blood-corpuscles are in increased quantity; precipitation of fibrin excessively marked under the glass.

April 24. (Same case.) Micrococci present, but in diminished quantity; white blood-corpuscles less affected; precipitation of fibrin less marked.

April 26. (Same case.) Micrococci very marked, yet principally in zoogloea masses and free in serum, but not affecting the white corpuscles, although the latter are in increased quantity; fibrin not noticeable.

April 30. (Same case.) Micrococci present; white blood-corpuscles still in excess, but not affected by micrococci. Red blood-corpuscles not readily forming rouleaux, having lost partly their biconcavity.

May 3. (Same case.) Micrococci present in diminished quantity. White blood-corpuscles diminishing in quantity.

May 7. (Same case.) Same as last.

May. 18. (Same case.) Still some few micrococci present; blood otherwise appears normal.

Cose III.—J. W., æt. eight months. May 13, p.m. Eruption appeared on fifth day. The temperature ran as follows:

May 13. a.m. p.m. $100\frac{3}{5}$°.
May 14. a.m. $101\frac{2}{5}$°, p.m. $102\frac{3}{5}$°.
May 15. a.m, 101°, p.m. $103\frac{2}{5}$°.
May 16. a.m, $101\frac{2}{5}$°, p.m. 104°.
May 17. a.m, 101°, p.m. $102\frac{3}{5}$°.
May 18. a.m. 102°, p.m. $103\frac{3}{5}$°.
May 19. a.m. 100°, p.m. 103°.
May 20. a.m. $103\frac{3}{5}$, p.m. 102°.
May 21. a.m. 105°, death.

May 13. A fever mixture was given during the day. Quiniæ et ferri citratis, gr. ij, every three hours.

May 18. The eruption fading, but leaving a purple stain and mottled appearance of skin. Catarrhal pneumonia or collapse brobably exists, as the bronchitis is very extensive, the rales numerous and subcrepitant.

The blood examined under the microscope shows micrococci in the blood-corpuscles, but none free in the field. They are seen in great numbers.

May 19. a.m. For the past two hours the child has been very restless, the breathing rapid and labored, and also spasmodic. No membrane on tonsils or fauces. Heart's action very rapid, venous stasis marked, especially in the jugular veins. Gave hot baths (say Dr. Campbell's notes), and covered him with blankets, with some relief. Increased the whisky to ʒij every hour.

In the evening gave an emetic. The child at night was breathing easier; friction sounds heard.

May 20. At times strangulation would seem imminent. The venous engorgement increased and the child died in convulsions on the morning of the 21st.

The post-mortem examination showed pneumonia and pleurisy with effusion.

The following eight cases were all taken sick at once, and I shall simply give a general statement of them for the purpose of especially calling attention to the case of W. L.:

J. J., aged four years; W. L., aged five years; E. C., aged three years, catarrhal bronchitis; W. W., aged three years; C. B., aged two years, catarrhal bronchitis; J. W., aged five years; J. D. aged five years; L. K. aged five years.

Of these eight, seven presented severe, but nevertheless, typical examples of measles, and their blood was carefully examined by Dr. Formad and found normal. The case of W. L., who was taken ill at the same time as the others, showed from the onset a malignant tendency, giving a record such as I have already described. Dr. Formad gave me the following as the result of the examination of the blood in this case, and I had frequent occasion of examining it with myself. Let me say that as soon as the presence of micrococci was established, the child was placed upon ℥ij doses of whisky every hour, quiniæ et ferri citratis in citric acid, gr. ij, every three hours, friction to the extremities, and warm baths, with milk and beef-tea.

April 32. A few micrococci seen in the field.

April 26. Again noted.

April 30. Micrococci still present; white corpuscles increased, and marked precipitation of fibrin. None were noted as having penetrated the corpuscles; those that were found were simply in the serum. This child recovered, though every indication gave a very unfavorable prognosis.

In presenting this detailed report I desire to call especial attention to the following points,—

viz., the microscopic examination of the blood and the constant association of micrococci with the general manifestations of malignancy (a condition already well known), and the gradual but positive amelioration of all bad symptoms by treatment which was directed to the micrococci as the *fons et origo* of trouble (this, I believe, for the first time exhibited).

It will be noted that the post-mortem examination of these cases showed more or less simple pulmonary congestion, and at times simple enlargement of the glands, but usually so circumscribed as to preclude the possibility of its being the immediate, or even remote, cause of death. Again, the mode of death was peculiar: the fatal signs came on suddenly and with frightful intensity, the gasping breathing, the frantic efforts to obtain air (or really to aërate the blood), the imploring look, with consciousness not impaired, seemingly unduly acute, until the final convulsion or gradual cyanosis brought the end. The veins, the occasional venous engorgement, the feeble pulse, and the fluttering heart pointed unmistakably to but one cause, the gradually forming right-sided heart-clot; and the post-mortem appearances, as these notes show, gave us a large, tough, chicken-fat clot, obstructing the venous circulation, firmly planted in the right heart and tributaries, which was too often exhibited to raise a question. One of the earliest symptoms of this impending danger was undue rapidity of respiration. The child seemed to be doing well, its eruption irregular, probably incomplete, or dark and mottled, and in blotches, when attention would be called to the great rapidity of respiration with a peculiar gasping inspiration, fish-like in character. The other fatal symptoms would follow rapidly, and within twelve hours the child, despite carbonate of ammonia, warm baths, digitalis, etc., would die of heart-clot. What caused this?

In a short paper which appeared in the *American Journal of the Medical Sciences* for January, 1882, I gave the experience of a number of cases of diphtheria, scarlet fever, and measles, and attributed the condition to an increase of fibrin due to the rapid tissue-changes, and the malignancy of the type of diseases, and urged the importance of pushing an alkaline treatment from the start.

The microscope has shown here that something more is associated with this condition.

The moment that symptoms of malignancy—viz., dark eruptions, feebly-defined crescents, delayed and imperfect appearance of the eruption, with feeble circulation, high temperature, and pharyngeal false membrane—appeared, the examination of the blood showed micrococci in abundance in the field. They do not simply lie as impediments to the free passage of blood, though they undoubtedly do this, and obstruct its passage in capillaries, but they surround the corpuscles, they enter the white corpuscle, and there develop with surprising rapidity, and finally cause some of them to rupture, and their contents will cover the field. Still, if they alone clogged the circulation in the capillaries, caused stasis in the lung, and thereby provoked an accumulation in the already enfeebled right heart, with blood having a tendency to coagulate, the cause of heart-clot alone would seem explained.

We find that they develop with activity when the blood-current is retarded; hence we find them spread throughout the heart clot itself, possibly at times having been here arrested by the obstruction to the flow caused by the lung-congestion known as a frequent complication of these cases, and finally aiding, by a mechanical cause alone, the deposition of fibrin that forms the clot. They do more. They act upon the white blood-corpuscle, destroy it in all probability, or, at least, as one of the cases proves conclusively, prevent its change to red corpuscles, and thus, the oxygen-carriers being either destroyed or reduced in numbers, with none to replace them, the tissues retain their detritus for want of carriers to relieve them, and another factor is added to increase mortality.

Granted, then, that the appearance of micrococci is coincident with symptoms of malignancy, we must assert that, whether their association be *post hoc* or *propter hoc*, they must have common cause; our treatment receives an impetus in a new direction.

I asked Dr. Formad what, in his experience, most readily checked the development of micrococci in his culture solutions obtained from erysipelas, diphtheria, etc. He answered alcohol. Dr. Campbell at once withdrew carbonate of ammonia and digitalis from the treatment for the future, and gave whiskey. Five children had already died with the symptoms I have just described, and the sixth was exhibiting all the malignant symptoms, together with those which experience had taught us came from commencing heart-clot. The child had rapid gasping breathing, was becoming cyanosed, its heart was tumultuous, and the rapid pulse was growing weaker. The instructions were to give three ounces of whiskey within the next twelve hours, in frequent and small doses. The treatment was carefully carried out, and the child was saved. In this child micrococci were found in abundance in the blood, but none had penetrated the corpuscles, and for a long time the preponderance of white blood-corpuscles was noted, which continued until gradually the blood became normal under the use of arsenic.

Again, let me illustrate another point. In one ward there were six cases at the height of eruption. I carefully examined, with Drs. Campbell and Markoe, each case. One case was found to be of malignant type. The child's right cheek was hardened and inflamed, and the mucous membrane, showed that glistening surface so manifest in cancrum oris. The breath was fetid, there were cerebral symptoms, and a grayish exudation lined the fauces. We wished to test the microscope, so, without reference to any particular case, we requested Dr. Formad to examine the blood of all. In five the blood showed no micrococci, in one a large mass appeared in the field upon the first examination, and this one was the maliginant case. This child was placed at once upon large doses of whiskey, and it was also given, in tonic, quiniæ et ferri citratis and citric acid.

The vegetable acids have also this remarkable effect of checking the development of micrococci in culture solutions, especially acetic acid, but the mineral acids, also carbolic acid, it is said, have no such action.

The bichloride of mercury also possesses this quality to a very marked degree.

Now let me, for a moment, review this subject in the light of treatment, which to us is certainly of greatest importance. We may look at present upon the micrococcus as associated with the malignant symptoms of all complications known as "blood-poisoning." It is found in erysipelas, in puerperal septicæmia, in diphtheria, and in measles. Experience has already taught us that alcohol, the vegetable acids, calomel, or corrosive sublimate, are the drugs *per se* in septicæmia.

The action of alcohol and calomel is too well authenticated in puerperal septicæmia to doubt their efficacy.

We know of late how surprising a result will often attend the use of alcohol and corrosive sublimate in malignant diphtheria, and also the value of vegetable agents, especially lemon-juice and claret, in this dreaded disease.

My cases simply illustrate one part of the subject. In this recital I do not allude to the other death-producing complications which are so universal. Children with measles will die of cerebral complications, of pneumonia, of enteritis, and entero-colitis: with these we have nothing to do at present. Their treatment will, of course, depend upon the lesions: quinine, opium, hot baths, poultices, will all take part.

I have simply brought forward the subject of "blood-poisoning" for your consideration, and as these remarks are based upon the careful study of but one epidemic, they cannot be submitted as conclusive, but simply as illustrative of what may at some future time be accomplished by studying, not merely the bacteria anatomically and physiologically, but by experimentation with bactericides as antidotal in their action in diseases they may cause or complicate.

The conclusions which seem warranted by the statements of this paper, and by observations made in other cases in the hospital, are as follows:

The micrococcus is found in the contents of pustule and vehicle, and also in the blood taken from the measles-papule in ordinarily mild cases, without its being present in the blood taken from the punctured finger. In severe cases, called malignant in this paper, owing to the rapid appearance of morbid symptoms, the blood shows early in the attack numerous patches of micrococcus in the field.

In cases of rapid sthenic disease with high temperature and great tissue-change, the evidences of large quantities of fibrin with a tendency to coagulations are manifest. The rapid production of micrococci soon gives the mechanical impediment, and if stasis takes place from any other obstruction to the circulation, clots rapidly form.

The non-appearance of clots in malignant fevers attended with fluid blood, such as low forms of typhus, diphtheria, etc., is simply due to the fact that rapid tissue-changes have resulted in decomposition, instead of into fibrin-forming substances—no fibrin is formed, hence no clots—but the micrococci are present all the same. These cases are held by some to be the malignant ones, but I think the *foudroyante* character of the others, just mentioned, entitles them to be placed in the same category.

But the micrococcus, if left unheeded, may attack the white corpuscles as distinctly seen under the microscope, and destroy its contents. The red cells also change in appearance, and finally probably become, to all intents and purposes, useless in the economy. When such a condition is seen by the microscope and found extensive, a fatal prognosis can be given, despite the most active treatment.

In cases where the white blood-cells are as yet unaffected, treatment, when active, will be followed by good results, provided the other complications, as visceral inflammation, etc., are not in themselves excessive.

Alcohol (whiskey in our cases) seems in some way, when given in large amounts, to check the progress of the marauders, to arrest the process of destruction, and, if needful, can be associated with quinine and iron in small repeated doses, digitalis perhaps, and frictions, baths and poultices, etc. As we have seen, the symptoms presented are contemporary with the changes going on within the blood; they may, *in lieu* of a careful microscopic examination of the blood, be taken as a gauge for treatment; knowing what can and will take place, early active treatment will give the patient some chance for the future. *Philadelphia Medical Times*

BEETZ ON THE TREATMENT OF SUBCUTANEOUS SUPPURATION AND OF GLANDULAR INFLAMMATIONS.—(*Aerztliches Intelligenz Blatt*, No. 27, 1882, July 4.)

As the inflammation of glands, especially those of a scrofulous nature, their chronicity, caseation, and tendency to induce tuberculosis, are at present occasioning much discussion, it is here unnecessary to dwell on the pathological significance of these processes.

If we inquire which method of treatment is the most correct, we find, on consulting the handbooks, that a healthy atmosphere, good nourishment, and constitutional treatment generally, are most usually prescribed. Sometimes we cannot treat the indications at all, as the patients may be only brought to us when already glandular inflammations, diseases of the joints and bones, and skin-affections, are well developed, or other troubles are in the way. The scrofulous habit has been described frequently as consisting in thickened upper lips and nose, sodden appearance of the face, and swelling of the neck; but these are really symptoms of the disease, of obstruction in the lymphatics and of venous obstruction. If we consider the time that an opened suppurating gland continues discharging a watery sanious pus, and after how long a period only a tendency to cicatrisation is evident, or caseous metamorphosis has begun, we can certainly not condemn a method of treatment which is calculated to bring about the early resolution of the inflammations in question. It is now four years since Kappesser (an army surgeon in Darmstadt), described his method in the *Berl. Klin. Woch.*, No. 6. 1878. It seemed to meet all moderate requirements;

and he begged of his colleagues to publish the results which they obtained by using his line of treatment. Numerous corroborations by Hausmann, Klingelhöfer, and Kollmann, soon appeared, Kappesser himself extending the indications in a more recent publication.

One of the first observations he made was in the case of a badly nourished scrofulous little girl, whose neck, especially on the right side, was immensely swollen, and discharged copiously fœtid pus from six or eight fistulous openings, there being also corneal ulceration, and no improvement by previous treatment. Recollecting a case in which, by ordering the inunction of soft soap for scabies, the phenomena of scrofulosis disappeared together with the scabies, Kappesser adopted this method once more; and with such success that in four weeks the unsightly swellings had been reduced to a few small easily movable glands about the neck, and the inflammation of the eye had subsided, leaving only slight haziness of the cornea. That this was no accidental result, was proved by the fact that the child returned to its bad condition during a period in which the physician had to be absent, and the foster-parents discontinued the inunction; and also that, the moment it was resumed, improvement followed rapidly. When seen two years afterwards, the child was healthy and fresh in appearance, the haziness of the cornea was reduced to a mininum and only perceptible on one eye, sight being scarcely influenced; the cicatrices on the neck were smooth and firmly healed, with little contraction. Recently Kappesser has gone a step further, and treated phthisical patients with pleuritic exudations, night-sweating, etc., in a similar manner, with the result that there were cessation of the pathological processes, increase of body-weight, and return of the capacity for work (*Berl. Klin. Woch.*, 1882, No. 5.) He particularly wishes it to be understood that he has not invented a cure for phthisis; but that he has only found his method useful in certain chronic exudative and ulcerative processes.

Beetz has been able to give some results which have been achieved in von Ziemssen's clinic at Erlangen since 1873, in the treatment of swellings of glands with soft soap. In that year, he ordered a very scrofulous child to be rubbed several times with soft soap, as in no other way could cleanliness be kept up; and as he observed that the hard masses of glands vanished very rapidly under this method, he has used it very often since and can corroborate Kappesser's observations. In addition to scrofulous tumors as well as inflammations in children, he has also used it in the lymphadenitis of adults; and, finally, in every case of subcutaneous inflammation, using different preparations of soap as the case required. To illustrate the method, a case is related. In February 1881, he was called to a child a few weeks old, which had high fever, and was covered with abscesses in various stages of development. In the left axilla an abscess had already burst; and the skin over this part of the thorax was so infiltrated, that the child hardly dared to breathe with this side. She was kept very clean, and had been properly nourished; but for three days there had been diarrhœa and loss of appetite. Without much hope, as the prognosis was undoubtedly bad, warm stupes, to be applied to the left thorax were ordered, moistened with spiritus saponis kalinus. On the following day it was found that all the larger abscesses had disappeared, the skin-infiltration after this was not to be found anywhere, and of the abscesses in the course of development there was nothing to be seen except little pustules, which had either discharged their contents or showed a small apex about to rupture. Breathing had become normal; three days later it was not necessary to see the child any more. It is now perfectly healthy. The author does not imagine that he saved this child's life by his treatment; it might, he says, have recovered without any medication whatever, but it certainly would not have done so in as short a period of time. A whitlow, if not already too far advanced, yields very promptly to the influence of warm applications of spiritus saponis kalinus.[1] But one of the most satisfactory of affections to treat is bubo; and since Beetz has introduced his treatment, he has never found it necessary to treat buboes otherwise.

For the last nine years his treatment in certain affections has been as follows. For chronic glandular indurations or abscesses in places in which it is difficult to apply dressings, he uses inunction in the evening with green soap, which is washed away the next morning, and repeated during three or four days with a subsequent interval of a day or more, according to the sensitiveness of the skin.

For acute glandular inflammations, whitlows, and abscesses in easily accessible positions, linen rags are steeped in spirit of soap, applied to the part, and covered with gutta percha paper. These dressings must be accurately applied, if they are to fulfil their object. For example, in inflammation of the inguinal glands, a good result can be expected only if the surgeon himself fixes the dressing with a spica bandage and safety-pins, not leaving it to the skill of the patient himself. There will be, not a tedious suppuration, but a very small abscess, with little or no trouble in walking (as there will be no infiltration). If we have to deal with a very delicate skin, or wish to avoid the unpleasant odor of the spirit of soap, the use of fluid glycerine soap is indicated, or sapo kalinus albus may be used, or even the 'créme d'amandes améres.' An elegant preparation may be made by white soap instead of green in the manufacture of the spiritus saponis kalinus, and adding a little carmine, previously dissolved in a drop or two of liquor ammoniæ, which makes it very attractive to the eyes of children.

Reference has been already made to Kappesser's results; and Hausmann comes to the conclusion that, even in very old glandular tumors and diseases of the lungs, pleura, intestine, or even mesenteric glands, this treatment meets with success, in so far as these diseases are complications of the glandular affections of the neck.

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[1] This preparation is a solution of two ounces of green soap in an ounce of alcohol, to which, after filtration, is added two drachms of spirit of lavender. An elegant preparation is obtained by dissolving the soap in Eau-de-Cologne.

More astonishing still are the results published by Kollmanns (who is surgeon to the female prison in Wurzburg), which have particularly been obtained in the treatment of caries and periostitis. Some of these cases he showed to Professor von Bergmann, and amongst others published in the *Berl. Klin. Woch.*, 1881, No 19, he relates a case of bedridden patient, the subject of caries of the sternum and vertebræ, and another of the tarsal bones, both of which were cured by inunction of soap, and were enabled to return to labor. Twice a week in the evening, 15 grammes of green soap was rubbed on, and washed off after half an hour; in some cases the patients were able to walk about whilst under treatment. The advantages of such a cheap method of treating diseases like scrofula, which exist for the greater part amongst the very poorest classes, are quite obvious.

If we now examine into the method of the operation of these soap inunctions, we find, first, that soap cleans the skin by being split up into acid and basic salts by abundance of water. The excess of alkali in these salts combines with the fat of the skin, forming soaps which can be washed off by water. The capability of softening the cuticle rests with the alkali which is set free; and that this capability is possessed to a greater degree by potash than by soda, is known to us from microscopic observations, as well as from the fact that potash-lye is used in the process of tanning; hence it is best to use potash soaps only, and the potash soap-spirit.

The action of this inunction of soap on subcutaneous collection of pus can be readily explained by the softening which the caustic potash exerts on the skin; this is more energetic when the application is in a moist form (fomentation), as this brings about an increased local blood-supply. The tension in the parts around the purulent collection relaxes; blood-stasis does not go on to diapedesis of white cells, but these can circulate in the blood, the rate of which has been quickened. The spot in which there is most pus has not the tension around it as before, and the lessened amount can easily push through the softened corium.

Sinitzin's beautiful experiment also proves that, in addition to the softening of the skin, a dilatation of the vessels takes place, which acts as a check to inflammation. In Brücke's *Vorlesungen*, Band ii, p. 81, Sinitzin's method of treating an artificial hyperæmia is thus detailed. If, during an ophthalmia, the result of cutting the trigeminal nerve, the superior cervical ganglion of the sympathetic be torn out, the inflammation at once ceases if not already too far advanced. If, on the other hand, the ganglion be first removed and the trigeminus then cut, inflammation does not take place at all; and, if both eyes be irritated by burying very fine glass threads in them and the ganglion be removed on one side, the healthy side will much more easily become inflamed than the side deprived of its ganglion. Hyperæmia and inflammation are not convertible terms; in the former, a great amount of blood collects in the vessels; in the latter, excluding all other processes, it is blood-cells which collect in the vessels. In the experiments we see an inflammation in process of development, and we perform an operation which induces hyperæmia by itself, and this operation is a remedy for the inflammation which is the result of another operation (Brücke).

The author has as yet no results to offer concerning cold abscesses. The reaction in inflamed and chronic indurated glands must be the same here; the relaxation of tension gives opportunity for decrease in size and absorption of the contents of the gland.

Caustic potash is capable of destroying the structure of the tissues and penetrating deeply, as no other chemical caustic can; and, under its influence, albuminous materials are dissolved and can be carried away by the blood or lymph streams. It is probably in this way that a cure is brought about in suppuration of bone.

The reason why its influence should extend only to pathological products and not cause absorption in organs where it might not be desirable, is easily to be found in the fact that the action of the alkali can only be induced where there is not an abundant supply of blood to immediately dilute it; this condition being most easily fulfilled by abscesses and inflammations with stasis. According to this, it may be thought it would be better to use a solution of potash at once; but Donders has proved that, although the elementary tissues are softened by strong solutions of caustic potash, yet they are not destroyed, whilst the weaker solutions have the power of attacking these; in any case, the fat of the soap acts as a protective to the skin, and perhaps prevents irritation.

Hausmann has very properly said that we should not neglect to give most careful attention to even the very slightest scrofulous affection, especially of the lymphatic glands. We must, therefore, continue to use those remedies which have been found of service, as cod-liver oil, baths at Heilbrunn, Tolz, or Kreuznach and Kohlgrub; but we must also devote some attention to a line of treatment which has already a very good history in the treatment of scrofulous and tubercular affections, and which is without the danger of any pernicious after-effects; and this is the inunction of various preparations of soap. —F. W. Elsner, in *London Med. Record.*

TREATMENT OF VOMITING BY ABSTINENCE FROM FOOD AND MEDICINE.—Sometimes vomiting is a very troublesome complication in disease of other organs than the stomach. In Bright's disease, in various functional as well as organic nervous disorders, in uterine affections, in cardiac and lung diseases, the physician is at times annoyed or becomes anxious as to the result on account of the obstinate vomiting; the derangement of the stomach becomes more important than the original disease. Effervescing drinks, oxalate of cerium, creosote, small doses of ipecac, hydrocyanic acid or tincture of nux vomica, bismuth, and various other remedies do not give relief, but seem rather to aggravate the symptom by exciting the vomiting afresh.

It is not necessary to inquire now why vomiting is thus persistent; there seems from some cause to be an irritability of the nerve centres, such that the presence of anything, even water, in the stomach serves to excite the reflex act of vomiting, and the more frequently this happens the more is the irritability of these centres increased. This condition may be due to disease, primarily or secondarily, or it may be produced by unwise medication.

Often the best method of treating this complication is to give the stomach rest. Sometimes only a large amount of food taken at one time excites vomiting; then it is sufficient to resort to frequent feeding, giving a very small quantity each time, a mouthful, or a spoonful every fifteen to thirty minutes; thus the stomach never contains a large mass of food requiring considerable muscular exertion to roll it about and by its weight or bulk exciting the reflex irritability of the nerve centres. Many times, however, this is not enough, the stomach requires more complete rest, and the best treatment is to withhold all food and medicine; sometimes a few hours rest is enough, again it requires two or three days, as in one of the following cases: then it will be necessary to use nutrient enemata.

Where there has been much vomiting thirst may be very annoying to the patient; small lumps of ice held in the mouth will relieve this, and generally do not cause vomiting. After the stomach has had sufficient rest it is best to commence feeding by the mouth with caution, giving a little frequently. Milk and lime water, equal parts, a teaspoonful every half hour, should be first tried; if well borne the amount can be increased gradually. It is a mistake to increase the quantity too rapidly. Some patients do better on soup, or Mellen's or Ridge's food, or on scraped raw beef. The following cases are a few from many which might be reported:

Bella L., aged twenty-two, transferred to nervous and renal service from medical service Aug. 25th. About one year previous was out in hot sun for a long time and next day did the week's washing; during these two days had headache nausea, vomiting, and vomiting with dizziness; was confined to bed one day. Soon after had pain and weakness in both iliac regions, which increased in severity till Christmas. She seemed to be suffering from general nervous weakness, there being no organic lesion. She had slight nausea at times, with dyspeptic symptoms till September 12th; there was so much nausea and vomiting that she was given only milk and lime water; on the 15th all medicine and the milk were omitted, and later in the day she was given scraped beef. The vomiting still continued, and on the 17th she was to have nothing by mouth, and to receive an enema of one egg beaten up with ten grains of pepsin every four hours. Four days later she was given every two hours a tablespoonful of chicken soup, and the alternate hours the same amount of Mellen's food. This diet was continued, the amounts given being increased till October 8th, when other articles were added to the diet. November 1st, it is recorded: "Not much nausea for some time; pain sometimes worse than at others. Can walk well for a few minutes, then is tired and has more pain. Has consciously been gaining strength. Feels much less nervous.

The treatment was at first directed to the condition of the nervous system; she received first ext. nuc. vomic., one third grain, ext. belladonna, one-sixth grain, zinci. oxid., two grains, in pill, three times a day. When the stomach becomes irritable, bismuth and the hydrocyanic acid were used. Dry cups and iodine were applied to the back, but after the stomach showed so much irritability the measures were directed to that.

Jane L.D., aged twenty-nine, entered December 15th. Had had about a year previously rheumatic pains in knees and calves of legs, which lasted all winter. Three weeks before entrance she began to have nausea and vomiting; the vomiting recurred daily; the vomitus was greenish and slimy; the vomiting occurred immediately after eating or drinking. There was great tenderness over the epigastrium. She had been working very hard, making long days at sewing. There was very slight œdema of feet; urine acid, 1020; trace of albumen; a few pus and a few blood globules; no casts.

All food was omitted for several hours, then milk and lime water was given in ounce doses every hour. She had no more nausea, and shortly after was able to take a reasonable amount of nourishment.

Delia L., aged thirty-four, married; has a history of syphilis; entered the hospital for a chronic ulcer of the leg. She had headache and vomiting, the latter being very obstinate. There was no albumen; no casts in urine. All medicine and food was stopped, and after some hours she was fed on a mixture of milk and lime water, equal parts, one teaspoonful every hour. The amount given was increased gradually and the proportion of lime water was diminished. After three days she took three ounces of mixture, milk six parts, lime water one part, every hour, with a little bread; the next day she had half a pint of milk every two hours, and soon was able to take ordinary diet.—S. G. Webber, M.D., *Boston Medical and Surgical Journal.*

ALBUMINURIA AND PEPTONURIA.—The presence of albumen in the urine is not always due to renal disease, and in many forms of the latter it is often absent.

Albuminuria may be due to:—

1. Increased arterial tension in the renal artery, producing active or passive hyperæmia.
2. Different parenchymatous diseases of the urinary organs.
3. Different fevers, such as typhus, variola, scarlatina, etc.
4. Different diseases of the brain or medulla.
5. Poisoning by various substances, such as cantharides, carbolic acid, arsenic, morphia, alcohol, and phosphorus.
6. Irritation of the skin by thermal, chemical or electrical agents.
7. Injection into the vessels or introduction into the stomach of large quantities of white of eggs, injection of defibrinated blood or water.
8. Sometimes in good health to violent exercise.
9. Renal ischæmia, compression of the renal artery, and intestinal catarrh.
10. Diminution of the quantity of chloride of sodium by transitory albuminuria.

Peptonuria is observed in profound disturbances of general nutrition, as in acute poisoning by phosphorus. It appears that in this disease the peptones do not come directly from the blood, but are artificial products developed in the uriniferous tubules and after the evacuation of the urine. The peptones results from the urinary digestion of the albumen by a process analogous to gastric digestion, as Brück has found pepsin, and Potchin a special acid, in the urine, and as it has been found that the transformation into peptones is interfered with by alkalies and a reduced temperature.—*L'Abeille Méd.*

The Effect of Salicylates on the Course and Duration of Rheumatism Compared with Other Methods of Treatment, Including Results by Various Observers.—In an able paper on this vexed question in the Practitioner by C. S. Clouston, M. D., in which he cited a very large number of cases, he says, "When rheumatic fever is treated by salicylates:

1. The duration of the acute stage under treatment is reduced to three or four days, or about half its average duration under alkaline treatment; and this effect being at least as obtainable by treatment at the outset of the disease as later on, the total duration is reduced by early treatment to four or five days.

2. The tendency to heart complication is probably less than under any other treatment; but the full value of the salicylate in reducing this risk can only be obtained by early treatment, which shortens so greatly the period of susceptibility.

3. Convalesence is generally rapid and satisfactory, while relapses are rare if adequate precautions are taken.

4. The best results can only be obtained by early treatment, and by rapidly saturating the system with frequent small doses (10 to 12 grains every hour) until marked benefit results and the acute symptoms disappear, after which the salicylate may be gradually discontinued, the patient being meanwhile closely watched, and the medicine at once resumed in full doses, if temperarure rise or pain return.

He concludes the paper by stating that he refers to the use of salicylates in articular rheumatism with elevation of temperature; that its effects are most marked in recent acute attacks affecting the larger joints, and least so in the adynamic type of the disease so frequently seen in those who have had several previous attacks. In chronic articular rheumatism its effects are less certain. In muscular rheumatism, which is a distinct disease, I need only say in passing that the salicylate appears at times highly beneficial. Its action is, however, uncertain, and depends, I believe, in some measure on family idiosyncrasy.

Treatment of Angina Pectoris. — Dr. A. Mülhberger, of Herrenalt, who had observed that a young man, the subject of angina pectoris, instinctively pressed his chest violently against the edge of a table, or his closed fist against the cardiac region, imitating this instinctive method of obtaining relief by passing his left arm around his patient's chest, and firmly rubbing the cardiac region with the fist of the right hand, varied at short intervals by quick pushes against the heart.

He believes that in concussion we have an excellent means of keeping in check the violence and duration of the sterno-cardiac attacks. He further notes that kneading and rubbing have long been tried and approved remedies against muscular cramp, and that as angina pectoris is nothing more or less than cramp of the cardiac muscle, it seemed to him likely a similar result would be obtained in parallel cases by the like means.

He finally sounds a note of not unheeded warning in the *Deutsch. Med. Zeitung* against the too bold use of remedies in this affection, and we may add in others also, and recalls the case of an elderly medical man who was relieved of his angina only to die of the morphia which procured the relief.—*Med. Press.*

Rosenthal on the Action of Electrical Stimulation of the Vagus.—From experiments made with his simplified phrenograph (a lever fitting the curvature of the liver, and transmitting the diaphragmatic movements by means of a Marey's capsule to an index), Dr. Rosenthal has reached certain conclusions, which he summarizes thus (*Centralblatt für die Med. Wiss.*, 1882, No. 22). 1. There are in the vagus certain fibres, probably coming from the lungs, the stimulation of which acts on the respiratory centre, causing the respirations to become more frequent and weaker, or, with a stronger stimulation, causes them to cease in the state of moderate inspiration. These he terms 'regulating fibres.' 2. In the superior laryngeal nerve are fibres, the stimulation of which makes the respirations less frequent and deeper, or with a stronger stimulation entirely checks them. These he calls 'inhibitory nerves' of the respiratory centre, analogous to the inhibitory nerves of the heart. 3. In the inferior laryngeal nerve are fibres, the stimulation of which also arrests respiration in the stage of expiration; but which cannot be the same as the last mentioned, as they cease to act when the stimulation is very strong, when the animal is narcotized, and when the cerebrum is removed. They are probably sensory nerves acting like other sensory nerves, only indirectly on the respiratory centres. 4. Large doses of chloral-hydrate (4½ grains injected into the jugular vein of a rabbit) totally prevent the action of the regulatory fibres, but leave the inhibitory fibres unaffected.—Jas. Anderson, M.D., *London Medical Record.*

Sick Headache.—Surgeon Major Roehring, of Amberg, reports, in No. 32 of the *Allg. Med. Centr. Zeit.*, April 22, 1882, a case of headache of long standing, which he cured by salicylate of sodium, which confirms the observation of Dr. Oehlschlager, of Danzig, who first contended that we possessed in salicylic acid one of the most reliable remedies for neuralgia. This cannot astonish us if we remember that the action of salicylic acid is, in more than one respect, and especially in its influence on the nervous centres, analogous to quinine.

While out with the troops on manœuvre, Dr. Roehring was called to visit the sixteen-year-old son of a poor peasant family, in a neighboring village. The boy, who gave all evidences, but who had shown himself very diligent at school, had been suffering, from his sixth year, several days every week, from the most intense headache, which had not been relieved by any of the many remedies tried for this purpose. A careful examination did not reveal any organic lesion or any cause for the pain, which seemed to be neuralgic in character, a purely nervous headache. Roehring had just been reading the observations of Oehlschlager, and knowing, from the names of the physicians who had been already attending the poor boy, that all the common remedies for neuralgia had been given a fair trial, thought this a good opportunity to test the virtue of salicylate of sodium. He gave the boy, who, in consequence of the severity of the pain, was not able to leave his bed, ten grains of the remedy every three hours, and was surprised to see the patient the next day in his tent and with smiling face. The boy admitted that he for years had not been feeling so well as he did then. The remedy was continued, but in less frequent doses, for a few days longer; the headache did not return. Several months later Dr. Roehring wrote to the school teacher of the boy, and was informed that the latter had, during all this time, been totally free of his former pain, that he was much brighter than formerly, and evidently enjoying the best of health.

It may be worth while to give the remedy a more extensive trial, and the more so, as we are only too often at a loss what to do in stubborn cases of so-called nervous headache.—*Medical and Surgical Journal.*

TREATMENT OF CHRONIC DYSENTERY BY LARGE ENEMATNA OF NITRATE OF SILVER.— In the *Lancet*, April, 1882, Dr. Stephen Mackenzie reports four severe cases of chronic dysentery, which were rapidly and effectually cured by one, or at most two, injections of nitrate of silver, in the proportion of one drachm of nitrate to three pints of water. Twenty years ago this plan was much more frequently employed than it has been of late years. It was then found to be equally efficacious in acute and in chronic cases. In the *Lancet*, June, 1876, a case is reported in which several American medical men introduced a speculum into the rectum under anæsthetics, and freely cauterized the mucous membrane as high as they could reach, and with marked success.

AN EASY METHOD OF DETECTING THE TUBERCLE BACILLUS IN SPUTUM.—Prof. B. Baumgarten, of Konigsberg, publishes in the *Obl. f. d. Med. Wissensch*, the details of a method of discovering the tubercle bacillus which he considers simple and handy. It consists in a combination of the potash method proposed by himself with that of Koch and Ehrlich. Dry preparations of phthisical sputa are made and moistened with a very feeble potash wash (1-2 drops of a 33 per cent. potash solution on a small watch glass of distilled water). The bacilli can then be plainly seen with a power of 4-500. The bacilli can then be separated from their surroundings by gentle pressure on the cover glass. In order to exclude the possibility of some other bacillus of similar form being mistaken for the tubercle bacillus; the cover glass is now removed, and kept off long enough to allow the moisture adhering to its under-surface to dry, which takes place in a few moments; the cover glass is then passed two or three times through a gas-flame, after which a drop of diluted ordinary aniline color solution, not too clear (or some other nucleus coloring aniline solution—a watery extract from the ordinary aniline ink paper will do very well), is dropped on. Under the microscope all the decomposition bacteria now appear an intense blue, or brown, according to the color-tone of the added coloring solution, whilst the tubercle bacilli remain absolutely colorless, and are as plainly to be seen as at first. The whole procedure does not occupy more than ten minutes, so that it seems well adapted for practice.—*Med. Press.*

VACCINAL CICATRICES AS PROGNOSTIC SIGNS IN VARIOLA.—M. Sandrieux presented the Societe Medicale des Hopitaux the results of his investigations which tend to demonstrate that no confidence can be placed in the theory that a single vaccinal cicatrix is as strong evidence of protection as are a large number, Messrs. Marson and Hart of London have already published similar investigations. As regards the mortality, he finds a great difference according as the cicatrices are proper in character or superficial. Following is a part of the statistics obtained from 1,800 patients observed by him in his services at the Hospital Saint Louis.

Of 71 patients having more than three proper cicatrices only three died; in other words the mortality was 4.2 per cent.

Of 98 patients bearing only three cicatrices, twelve died; a mortality of 12.2 per cent.

In the same article the value of supercial cicatrices is estimated thus:

Among 143 patients presenting more than three superficial cicatrices, there were 29 deaths, giving a mortality of 20.27.

Among 133 patients bearing only three or fewer than three superficial cicatrices, 31 deaths occurred; a mortality of 23,30 per cent.

Thus, a mortality of only 4.2 per cent. when the patient has more than three proper vaccinal cicatrices, is raised to 23.30 per cent. when the patient bears only three superficial cicatrices.

In conclusion, a good number of cicatrices, and their proper appearance will, in a majority of cases permit the making of a favorable prognosis in the initial stage of variola. Where five or six cicatrices are found, the variola rarely proves fatal.

The conclusion, therefore, is that, except where it concerns children subject to eczema, the multiplication of scarifications is indicated, and should be at least six or eight in number.—*Jour. de Méd et de Chirurg.* J. M. F.

PAINFUL ERECTIONS IN GONORRHEA. — The insomnia and the suffering occasioned by the painful erections which occur in the course of gonorrhea are as a rule found intractable to the sedative remedies usually employed for their relief; such, for example, as nenuphar, camphor, lupulin, extract of opium, laudanum washes, urethral injections of hydrate of chloral and the hypodermic injection of morphine. Dr. Mauriac prescribes for this purpose as a urethral injection an aqueous solution of glycerine containing—

Potassium bromide	6 grs. (M)
Laudanum	2 grs. (M)

These injections must remain in the canal two or three minutes and should be repeated four times a day.

Dr. Cambillard, after the example of his instructor, Dr. Mauriac, has obtained excellent results from the remedy, which occasions no evil effects more than a slight burning sensation.

Of eighteen patients submitted to this treatment, fifteen experienced a diminution or entire suppression of the erections. He was aware that the bromide of potash might diminish the sensibility of the mucous membrane, either by acting directly through the urine or by its action upon the nerve centers.—*Le Médicin Practicien*, July 22, 1882. J. M. F.

THE COMPOSITION OF THE URINE IN A CASE OF CANCER OF THE LIVER.—Dr. V. C. Vaughan and Harriet C. Beringer give the following peculiarities observed in an analysis of the urine in a case of hepatic cancer:

1. The small amount of urine was due to obstructed circulation.

2. Urine in cancer of the liver deposits urates colored more of less of a red, and this color becomes darker on exposure to the air.

3. The formation of bile pigments continues even in structural diseases of the liver, which involve nearly the whole of the gland substance.

4. The formation of bile acid is arrested in the latter stages of cancer of the liver.

5. In this formation of bile the functional activity of the liver is concentrated for the most part upon the elaboration of bile acid.

6. Taurin and glycin are formed in the body even when the greater part of the liver is destroyed by abnormal growth.

7. Unoxidized sulphur (partly or wholly in the form of taurin) is present in the urine in large amount.

8. Their experiments indicate the two-fold origin of urea. The amount of urea is reduced to a minimum, and then remains stationary until death.

9. The quantity of uric acid is increased, and urates are deposited.

10. The phosphoric acid remains about the same in quantity as in health.

11. The sulphates and chlorides are greatly diminished.

12. Leucin and tyrosin appear and may be detected by microscopical inspection, after concentration, and may be approximately estimated by the method given.—*Physician and Surgeon.*

PECULIAR BEHAVIOR OF HYDROCHLORATE OF QUININE.—Dr. Vulpius had his attention drawn to a peculiar retardation of the reaction between hydrochlorate of quinine and nitrate of silver, and found on further examination that no precipitate of chloride of silver was formed if the solutions were mixed under certain precautions.

In the first place, both solutions must be considerably diluted, and care must be taken that the nitrate of silver solution shall, at no time accumulate in any one place in the mixture. If this is the case—as, for instance, if a drop of the silver solution be allowed to run down the edge of the vessel into the quinine solution without the latter being stirred—the usual precipitate of chloride of silver will make its appearance, and though this precipitate may be almost rendered invisible by brisk agitation, yet it cannot be entirely redissolved. But, if to fifty grams of a one per cent. solution of hydrochlorate of quinine, kept in constant rotary motion, a one per cent. solution of nitrate of silver be added gradually and in drops, it will require more than ten grams of the latter before a decided precipitate will make its appearance. It would, therefore, seem as if the quinine salt could form, at least in the beginning, a double salt with silver. There appears to be, also, a difference between the various alkaloids as to their capability of forming this double salt, a solution of hydrochlorate of morphine, for instance, producing under similar conditions, an instantaneous precipitate of chloride of silver.—*Arch. d. Pharm.*, iii., 20, 361.

PROGNOSIS IN DIABETES.—Dr. R. Schmitz, of Neuanahr, discusses six hundred cases of diabetes treated by him for the most part dietetically. He says the question of prognosis is determined by (1) the earliness of the discovery and treatment of the complaint; (2) the strictness with which the anti-diabetic regimen is observed; (3) the etiological factors; (4) the age of the patient; (5) the degree of immunity the patient enjoys when he chances to use sugar-breeding food. In early cases the prognosis is favorable. Diabetes depending on central nervous lesions or on grave chronic affections is serious; depending on worry, pain and grief, or on over-use of sugary food, it is less so. Gouty diabetes has the best prognosis of all. After the age of thirty the prognosis grows steadily worse. It is bad if sugar persists on an exclusive diet of fish and flesh. It is decidedly favorable if eggs, salads, and mild cheese can be taken without breeding sugar, which only reappears when fruits, starchy roots, starch or cane sugar are taken.—*Wiener Med. Wochenschrift.*

PHTHISIS WITHOUT SPUTA.—Dr. H. A. Lediard (*Med. Times and Gazette*) give the history of two cases, men aged respectively fifty-three and twenty-nine, in whom, during the whole course of their illness, there was never any expectoration. It was a remarkable coincidence that both lived exactly four months from the commencement of the disease. In neither was there any hæmoptysis, and scarcely any cough. Unfortunately, in neither was a post-mortem examination possible. Dr. Lediard compares such cases to the destructive process in the joints known as "caries sicca." The absence of sputa is evidently not at all a favorable sign in this form of disease. —*The Practitioner.*

SULPHURETTED HYDROGEN IN TUBERCULOSIS. Prof. Arnoldi Cantani (*Centralblatt f. Med. Wissensch.*) has been experimenting with sulphuretted hydrogen in the treatment of tuberculosis. The reputation of certain sulphur springs, as well as the known properties of the antiseptic, led him to regard the treatment as hopeful. He administers the gas partly in solution and partly by inhalation in a special chamber. He finds so far, that: 1. The inhalation of an atmosphere strongly impregnated with sulphuretted hydrogen can be well borne for a considerable time by most patients; those who find it irksome at first soon get used to it. 2. The patients usually become free of fever in a day or two. 3. The local changes appear not to increase, and the cough becomes less.—*Practitioner.*

ATROPIA AS AN ANTIDOTE TO PILOCARPINE. Dr. Frohnmüller reports a case in which the hypodermic injection of 0·02 grm. of the muriate of pilocarpine, in a man aged eighteen, with exudative pleurisy, produced exaggerated symptoms of pilocarpine poisoning; the administration of twenty drops of an atropia solution used for the eye was followed by an almost immediate disappearance of the symptoms. A number of experiments were then instituted, which show that this antidotal property is also possessed by homatropia.—*Med. Chir. Centralblatt.*

SURGERY.

HOT WATER IN SURGICAL PRACTICE.—J. R. Weist, M.D., of Richmond, Ind., read the following before the Indiana State Medical Society, May 10, 1882, which we extract from the *College and Clinical Record:*

In surgery, as in every other department of our profession, methods of treatment simple and of easy application commend themselves to the careful practitioner. Yet it is a curious fact that measures complicated and of doubtful utility are much more readily adopted. There are probably two principal reasons for this. The entire profession is not yet emancipated from superstition, and means difficult to apply, and whose *modus operandi* are but little understood, furnish more room for the exercise of "faith" and ground for vague and unending speculation as to their merits and methods of action. Patients groping in still more profound ignorance in relation to the difference between physiological and pathological conditions, and of the action of agents in changing the latter into the former, have a still greater faith in medicines or plans of treatment about the action of which they can form no intelligent ideas, and in consequence of this, the professional attendant is often valued in proportion to the cost of his remedies or the mystery with which he surrounds them.

Simple plans of treatment, for these reasons, are slowly adopted, and when they are, bring less renown and less pecuniary gain than their opposites. Changes, however, are slowly going on in the people, and each succeeding year requires a higher degree of intelligence and scientific knowledge from the physician and surgeon, and this demand must continue to increase, because of the sharp struggle for place in the ranks of our overcrowded profession. There is hope, therefore, that ultimately the simple methods of relief and cure will be recognized at their full value and adopted in practice.

The purpose of this brief paper is to direct the attention of members of the Society to an agent, simple, cheap, of easy application, and of great value in surgical practice. This is hot water.

The value of hot sinapisms and poultices for the relief of pain in certain surgical diseases is universally recognized. Every one is familiar, perhaps, with the use of hot applications in certain inflammations, in abscess, epididymitis, sprains, etc.; but it is not, I think, generally believed that their value extends much beyond their power to relieve pain. Yet it is certainly true that in hot water we possess a most powerful agent for the prevention of inflammation and for the control, when established, of the pathological tissue changes we associate together under this name. The leading gynecologists are fully aware of the value of hot water in this direction, and make extensive use of it by vaginal injections, to relieve congestions and inflammations of the pelvic organs; and while, as Dr. Emmet says, "it is not a *cure-all* for these affections," it is of such great value that, were its worth generally known, much of the cauterization, intra-uterine medication, scarification, and other operative measures would go out of fashion, greatly to the relief of suffering women.

It is to the value of hot water as a hæmostatic agent, however, that I wish to direct chief attention, especially to its power when the bleeding is from small vessels, or of the character denominated capillary oozing—a fact, I believe, first brought prominently before the profession by Dr. Emmet, in his "Principles and Practice of Gynecology," and he gives the late Dr. Pitcher, of Detroit, credit for first calling his attention to the matter. He says that while operating, in 1859, to close a vesico-vaginal fistula, where free incisions were necessary, "the progress of the operation had been greatly delayed in consequence of oozing of blood." This could be temporarily checked by pressure and ice, but in a few moments reaction would take place and the bleeding be as great as before. Dr. Pitcher being present, suggested a sponge probang be dipped into hot water and applied several times to the bleeding surface. This was done and the bleeding was promptly arrested. This led Dr. E. to the frequent use of vaginal injections of hot water in various uterine and pelvic disorders associated with capillary congestion. Surgeons seem to have failed to appreciate the hint thus given, as no surgical work with which I am acquainted gives any prominence to the hæmostatic properties of hot water. Generally it is not mentioned in this connection. I shall merely mention some of the cases in which its power to control hemorrhage has, in my experience, been of signal service.

In ovariotomy, after the separation of extensive adhesions, there is frequently a very annoying oozing of blood that must be arrested before closure of the abdominal cavity, if septicæmia and the subsequent death of the patient are to be prevented. In such cases the repeated application of sponges dipped in hot water will generally promptly arrest the bleeding, succeeding even in cases in which the solution of the persulphate of iron has failed.

In cases of hemorrhage after removal of uterine fibroids, the injection of hot water into the uterus succeeds in cases which would otherwise require the use of the tampon, a fact first made public by Dr. Windelband, in 1875, who recommended the same treatment for the arrest of hemorrhage following abortion. Dr. W., however, ascribed the success of the method more to the power of the hot water to induce uterine contractions, than to its influence directly upon the open vessels.

The value of this agent during and after operations for the closure of vesico-vaginal fistula has been clearly pointed out by Dr. Emmet, as already mentioned, and all that he states in its favor I have frequently verified in operations of the same kind. In operations for old lacerations of the perineum, when an extensive surface must be freshened, bleeding is often quite free. This can generally be readily arrested by the frequent application of sponges saturated with hot water; and by a method suggested to me by Prof. Reamy, of Cincinnati. The paring of the tissues can be done with almost the same precision and rapidity as upon the cadaver. An assistant, by means of a syringe, causes a constant stream of hot water to flow slowly over the field of operation. This simple manœuvre not only washes away the flowing blood, but almost entirely arrests it. The entire field of operation remains in plain view, greatly to the comfort of the operator and to the advantage of the patient. In this operation, as well as in that for closure of a vesico-vaginal fistula, the repeated injections into the vagina of water as hot as can be borne by the patient, just before commencing work, greatly lessens the subsequent bleeding.

Over the oozing from stumps after amputations, after removal of tumors, the superior maxillary bone, excision of the mammary gland, and various other operations, hot water has, in my experience, exercised a most important influence.

A very great advantage that hot water has over most other agents employed to arrest the kind of hemorrhage under consideration, is that it does not interfere with the subsequent healing process; it is possible that it promotes it.

I lately amputated a young man's thigh at the lower third. During the operation hot water was freely used until all oosing ceased. No pain followed the operation. On the third day the drainage tube and the sutures were removed, the flaps being completely united, except where separated by the drainage tube and ligatures. On the fourth day the patient was dressed and going all over the house on crutches. On the sixth day he was about town on crutches, having no pain and no suppuration of the wound; the wound was indeed healed, except along the track of the ligatures.

Two weeks since I operated on a lady seventy-two years old, for carcinoma of the mammary gland. The diseased gland was large, weighing over three pounds; an extensive wound was, therefore, unavoidable. During the operation hot water was freely used, torsion was applied to the arteries, and the edges of wound approximated, contrary to my usual practice. At the end of three days the drainage tube and the sutures were removed. At the end of five days the wound was entirely healed, except a small point at either angle, through which the drainage-tube had passed, there having been no suppuration.

I do not claim that the extraordinary results seen in these two cases were owing wholly to the use of hot water, as I am sure that perfect drainage and methodical compression were important factors; but they are sufficient to establish the fact that the free application of hot water to wounds does not interfere with the healing process. I believe it hastens it. The contraction of the capillary vessels it induces continues for some time after its use is discontinued, and it is well known that the amount of blood in an injured part is an important factor in the development of inflammation. In this connection it will be remembered how great an influence the ligation of the principal artery of a limb has upon an inflammation in progress below. Additional evidence upon this point I have already given, when speaking of the conservative influence of hot water in certain idiopathic and traumatic inflammations, where there are no open wounds. Nearly all other hæmostatic agents hinder, if they do not render impossible, the direct repair of injured tissues.

Cold water and ice, even, are much less efficient in checking hemorrhage than hot water. The immediate effect of cold is to contract the bleeding vessels, but this contraction is very soon followed by the opposite condition, dilatation; one that continues for a considerable period, and one that favors further hemorrhage. Besides, it is a fact well established that prolonged cold lowers the reparative power of the tissues.

The immediate effect of heat is to dilate the vessels, but afterward it contracts them. Dr. Pitcher's explanation of the manner in which hot water arrests hemorrhage is, that the clot formed in the mouth of the dilated vessel was held so firmly in position by the subsequent contraction as to prevent its being readily dislodged.

In hemorrhage from the nose, the injection of hot water, in my hands has proved very effective, and I am persuaded that in pulmonary hemorrhage the inhalation of hot water, in the form of steam, would prove to be a valuable agent for its arrest.

The value of hot water in hemorrhage and inflammation, depending on its power to contract the smaller blood-vessels, and thus lessen the flow of blood to and the quantity in a part, involves some interesting physiological questions. Capillary vessels possess no muscular elements and can be subject to no active change of calibre. The changes in the diameter that do take place in them are passive, and by virtue of their elasticity; and all the important changes therefore effected in a given part by hot water must be through vessels—arteries—larger than capillaries, whose walls contain muscular elements which are excited to action by nerve stimulation. This may be probably accomplished in two ways. Foster says (Text-Book of Physiology, p. 170), "The change in any given vascular area may be brought about by stimuli applied to the spot itself, and acting either directly on the local mechanism (vaso-motor) or indirectly by reflex action through the general vasomotor centre." These physiological questions, however, I am not competent to discuss, and I leave the subject, with the remark that whatever may be the mechanism through which the effect is accomplished, it is certainly important to know that in hot water we have a simple, cheap and effective means for attaining important ends in surgical practice.

THE PRINCIPLES OF PLASTIC OR REPARATIVE SURGERY. By John B. Roberts, M.D., in Philadelphia Medical Times.

Under the term plastic surgery are grouped those operations which have for their object the construction, usually from the patient's own tissues, of absent parts, and the reposition or curtailment of parts displaced or deformed by accident or disease. The word "plasty" is often used with a prefix to indicate the organ formed: thus, "rhinoplasty" means the reconstruction of a nose; "cheiloplasty", the formation of a lip.

Plastic surgery is called into play to overcome both congenital and acquired defects and deformities. Its objects, therefore, may be stated to be—1, to correct deformity due to imperfect fœtal development, as hare-lip and cleft palate; 2, to replace parts lost or deformed by injury or ulceration, as in closing fistules or clefts, and reconstructing destroyed noses or lips; 3, to relieve or prevent distortion from cicatricial contraction, as after burns, cervical abscesses, and the removal of tumors requiring ablation of a large amount of integument; and 4, to curtail organs rendered unseemly by abnormal growth, as in greatly hypertrophied nose or tongue, and in large and protruding ears.

The structures used in constructive operations are especially the skin and subcutaneous cellular tissue, though mucous membrane, which becomes cutaneous when removed to the external surface, muscle, periosteum, and even bone, are at times successfully utilized.

The steps of a plastic operation are to be followed in regular succession, and the plan of procedure should be clearly fixed in the operator's mind before he makes the first incision. The patient must be in good health, lest erysipelas or ulcerative action attacks the wounds made. When parts destroyed by syphilis are about to be reconstructed, it must be ascertained that no syphilitic manifestations have occurred for many months, since a recurrence of specific ulceration would destroy the success of the plastic operation, and perhaps render future measures impossible. The successive steps are—1, freshening the edges of the vacuity to be filled, and obtaining one or more flaps, if such are required; 2, arresting all bleeding, since clots between the raw surfaces prevent union by first intention; 3, adjusting the parts in proper relation without tension, and retaining them in apposition by sutures; 4, closing the gaps left by removal of the flaps, if such have been employed; 5, dressing all the wounds with non-irritating application; and 6, preventing motion and frequent handling of the parts.

In complicated reparative procedures it is often necessary to accomplish the desired end by a series of operations, each one of which effects a result which affords a basis for subsequent measures. The time between any two operations may be weeks or months, for the secondary operation should not be undertaken until cicatrization and shrinkage have fully determined the condition gained by the primary one.

In applying the sutures, doubling in of the edges of the flaps can be prevented by introducing the needle obliquely, so that the punctures on the inner surface are further from the margin than the external punctures. This causes the opposed edges to pout out a little at first: but the protrusion disappears with cicatrization; if not, it can be pared away subsequently. Wire sutures are generally preferable to thread, and may be fastened by twisting or with perforated shot. A few deeply-placed sustaining sutures may be advantageous in maintaining approximation, when the plastic operation requires the union of large surfaces extending inward to a considerable depth. The strain is thus taken from the superficial sutures, and rapid union of all portions of the wound is encouraged. Sometimes the support given by the pin suture makes it preferable to the interrupted suture. The tongue-and-grooved suture of Dr. Joseph Pancoast is often a very excellent method of maintaining apposition in rhinoplasty and operations for exstrophy of the bladder. It consists in slipping the flap margin, which has been beveled, into a groove made by dissecting up the edge of skin surrounding the raw surface to be covered. Four raw surfaces are thus opposed. Wire or thread sutures are then applied through the several layers, so that the ends of each stitch can be tied externally over a perforated button or cylinder.

Between the ordinary metallic sutures stitches of thread are sometimes employed to make very accurate opposition of thin edges. They can usually be removed early, before it is safe to take out the metallic sutures. Hence the irritating effect of the thread is not exerted.

The gap left by the removal of a flap should be closed, if possible, by drawing the integument together, or by inserting a flap from the neighborhood, if one can be obtained which will put cicatrical tension in a less dangerous locality. If neither means is applicable, provision should be made for healing by granulation. Often the tissue dissected away to make a raw surface for adhesion of the flap can be utilized in closing the hiatus left by the elevation of that flap.

The various plastic procedures are included in three methods of operating, which I shall term respectively the methods of displacement, by interpolation, and by retrenchment. Under the displacement method are included operations done by simple approximation and by sliding. Under the method by interpolation are classed procedures accomplished by transference and by transplantation. The relations and characteristics of these modes of operating will be seen by the schedule.

Methods used in Plastic Surgery.—I. Displacement, stretching or sliding tissues.

1. Simple approximation after freshening the edges, as in hare-lip, fistules, etc.

2. Sliding into position after transferring tension to adjoining localities, as in V-shaped incision for ectropion, in linear incisions to allow

stretching of skin to cover large wounds and to relax contracted cicatrices.

II. Interpolation, borrowing material from adjacent regions, from a limb, or from another person.

1. Transferring flap with a pedicle.

A. Putting in place at once,—

1. By rotating flap on the pedicle in its own plane through one-quarter or one-half a circle, as in making upper eyelid or nose from forehead.

2. By twisting flap on its pedicle, as in making side of nose from lip.

3. By everting flap entirely, so that its raw surface is uppermost, as in covering exstrophy of the bladder by scrotal flap.

4. By superposing one flap on another which has been everted. This is done where a thick wall is desirable, as in closing the front of an exstrophy of the bladder.

5. By jumping, or carrying flap across a bridge of skin, and fixing only its end to the part to be repaired. When the flap has become attached, the pedicle is severed. This method is rarely employed.

B. Putting in place gradually by successive migrations.—By same manœuvers as when the flap is placed at once in its permanent position. This method is not very commonly needed, but may be valuable when there is nothing but cicatricial material in the immediate vicinity of the part to be repaired.

2. Transplanting without a pedicle.

A. By carefully suturing in the gap areas of tissue recently dissected from distant regions.

B. By skin-grafting.

C. By readjusting finger-tips, ears and noses recently completely severed by injury.

Transplanting, except skin-grafting, is not very successful.

III. Retrenchment, removing superfluous material and getting cicatricial contraction.

1. By cutting out semi-elliptical or elliptical pieces of tissue, as in ptosis, cystocele, and prolapse of the rectum.

2. By cutting out triangular or wedge-shaped portions of tissue, as in closing ruptured perineum, decreasing the size of a lip, ear or nose.

Retrenchment is often valuable, because it decreases the relative size of features; thus, if a nose has been partially lost, the upper lip appears too large, and its diminution will render the deficient nose less noticeable. When material is taken from the prominent feature, and especially if it is added to the other, the normal proportion is nearly reestablished and deformity greatly diminished.

To secure success in plastic devices certain precautions should be observed. In the first place, the patient should be in good general health, and free from irritation or inflammation about the seat of proposed operation. In transferring or transplanting it is essential to select normal integument for the flap, because cicatricial tissue is almost sure to slough if dissected from subjacent structures. Approximation and sliding operations, however, may be successfully performed with cicatricial tissue, because these methods interfere comparatively little with the vascular supply from beneath.

All flaps should be made large, thick, and with a good vascular supply through a wide pedicle. As soon as the flap is dissected loose, it shrinks, and becomes paler and cooler. Hence it should consist of skin and plenty of subcutaneous tissue, because thick flaps contract less and are more vascular. It should be made about one-third larger in area than the space to be filled, and should be allowed to cool as little as possible by being placed in position as quickly as practicable. For the last two reasons, I consider it preferable to freshen the edges of the part to be repaired before making the flap. This is, of course, especially true in the transplanting method.

It is sometimes well to cut a diagram of the flap out of paper or cloth, and mark a similar outline upon the skin with ink before beginning the dissection of the flap. It must be remembered that when the flap is formed it contracts very much. At the same time, the gap from which it has been taken appears larger than really is the fact, because of retraction of the margins of the wound. Nevertheless, it is well to make the flap at least one-third larger and much thicker than the space into which it is to be interpolated would seem to require, since the flap shrinks at once, and contraction and absorption from cicatricial changes go on for many weeks after union has occurred. Any redundancy is readily removed when the lapse of time proves it to actually exist.

To guard against imperfect nutrition and consequent sloughing of the flap, it is well to make its long axis correspond with the direction of the arterial supply, and to have its base presenting toward the cardiac portion of the arteries. Where there is very free anastomosis, as upon the face, this rule may be disregarded to a considerable extent. The calibre of the supplying vessels must not be interfered with by two much twisting or tension of the pedicle, which must always be wide and thick. Injurious tension on the pedicle can frequently be prevented by cutting a pedicle with curved margins, which will allow increased stretching without occluding the vessels.

Skin free from hairs should be selected when possible, unless it is desired to make eyebrows.

The gap to be filled by interpolation and parts to be united by approximation should have their surfaces freshened by such free incisions as will give abundant areas of contact for union by first intention. It is an error to pare away so little tissue that only a thin raw edge is obtained. It is necessary to have broad surfaces of contact to make successful plastic operations, and these must be obtained even at the sacrifice of considerable material. The additional material removed will not be so great but that it can be supplied during the subsequent steps of the operation. Operations for hare-lip and torn perineum are often imperfect because of neglect of this rule.

When all hemorrhage from the flaps and freshened edges has been controlled, accurate approximation is to be made by numerous sutures, which should hold the parts merely in contact, allowing them to lie loosely and without tension.

It is important in constructing new noses and other features to be satisfied at first with obtaining a bulky semblance of the organ, and not to endeavor to trim down the structures to an accurate conformation, because it is impossible to estimate the amount and character of cicatricial shrinkage which will inevitably occur.

Exudation and organization of lymph sufficient to hold the parts together with moderate firmness occur in from two to three days; then some or all of the sutures may usually be removed. Metallic sutures cause so little local irritation that they may be allowed to remain as long as there is any danger of disruption of adhering parts. The silk sutures, which are often useful in securing accurate adjustment at the very edges of the wounds, are generally removed early.

The success following well devised and carefully performed plastic operations is very gratifying. It is especially so in cosmetic operations, since the improved appearance, though not equal to the normal condition, it is a great solace to the disfigured patient. It is always a long time before the cicatrices become white and soft; therefore the full result is not apparent until many months have elapsed. The scars always remain visible, however; hence the photographic illustrations of many published cases are deceptive, in the apparent absence of scarring. The disability due to fistules, ruptured perineum, and many other conditions can often be entirely removed by plastic surgery.

If gangrene of the flap does not occur before the end of the fourth day, it is not likely to take place, and the integrity of the operation is pretty well assured. If, however, during the first three or four days, the flap becomes grayish and pulpy, and shows a loosened cuticle, or, on the other hand, if it assumes a dry and withered appearance, it is evident that destruction of more or less tissue by sloughing is supervening. The surgeon should nevertheless, leave the parts in position, keep them warm and moist, and disturb the dressings as little as possible, because the gangrene may involve only the edges or the superficial layers of the flaps. A very small amount of living tissue remaining after the limitation of the sloughing process will often be very serviceable in making the operation entirely, or at least partially, successful.—*Philadelphia Medical Times.*

OPERATION FOR A RECTIFICATION OF A DEFLECTION OF THE NASAL SEPTUM.—Dr. W. C. Glasgow objects to the removal of a portion of the septum by punch or scissors, or otherwise, as likely to produce deformity of the nose, and advocates an operation (a modification of Mr. Adams') proposed by Dr. Steele, of St. Louis. In many cases the resiliency of the septum is so great that Mr. Adams' method will not suffice. Dr. Steele's modification consists in making a stellated division through the mucous membranes and cartilage, and a forcible reposition of the divided septum, which is retained in position by plugs. The division of the cartilage destroys, in a great measure, its resiliency, and the plugs are more to give support than to exert pressure. The instruments necessary for the operation are stout forceps shod on one blade with knives set in a stellate from. The two blades are united after the manner of obstetrical forceps, to facilitate the introduction and withdrrwal. The cutting blade is covered with a thin sliding shield to protect the nostril from laceration during insertion. Any strong, stout blade, or Mr. Adams' septum forceps, may be used to push back the divided septum to the natural line. The plugs are made of ebony or ivory, and must be made to suit each individual case. They should be made thick enough to give support to the replaced septumr and sufficiently long to reach from the inferiot meatus to the tip of the nose. An important feature of the plug lies in the pointed shoulder which is inserted in the sulcus at the tip of the nose. It is thus retained safely in position; it is concealed from view, and can easily be withdrawn by the patient. The patient should be etherized, or put under the influence of nitrous oxide. The cutting blade of the forceps, covered by the shield, is introduced into the unobstructed nostril, and the shield withdrawn; the second blade is then introduced into the closed nostril, and the blades securely locked; forcible pressure is brought to bear and the cartilage divided; after unlocking, the blades are withdrawn; the septum is then forcibly crowded back and a proper plug immediately inserted. As a rule the plugs should be retained in four days. Afterwards they need be worn at night for five nights. The plugs should excite little or no pain if properly fitted. If they are too long, they press on the turbinated bone, and give rise to pain. They are completely hidden within the nostril, producing slight distension with little deformity. — Frederick I. Knight, M.D., in *Boston Medical and Surgical Journal.*

LUMBAR COLOTOMY FOR EPITHELIOMA OF THE RECTUM.—M. Trélat has seen a patient upon whom, six months ago, he operated for lumbar colotomy the removal of the epithelioma of the rectum not being possible, Since that time the patient has notably improved. There exists no sign of a cachexia, the digestive functions are carried out well, and the lumbar anus is of no inconvenience because of the great cleanliness observed. The operator has seen sixteen cases of cancer of the rectum in two years: and none of the curative operations gave as good results as by the above methods. The following are two characteristic cases.

In a man, a very early diagnosis of epithelioma of the rectum was made. The tumor was very limited and accessible. The removal was complete; the patient appeared in the best condition for a cure; at the end of five weeks there was a recurrence and since, several operations have been performed.

In another patient the tumor formed an irregular ring, three to six centimeters above the anus. Complete removal of the tumor was possible, and was made with the greatest care, but the cancerous mass had to be followed upon the anterior face of the sacrum. The patient died on the ninth day of pelvic cellulitis.

The palliative operation has given better results than the curative in one case. Total removal of the inferior part of the rectum is a dangerous operation, notwithstanding all the precautions that may be taken.—*France Médicale.*—*St. Louis Med. & Surg. Journal.*

HIP-JOINT AMPUTATIONS.—During the past

month, three cases of amputation at the right hip-joint were performed in England, with the aid of Mr. Davy's lever for controlling hæmorrhage. A case where Mr. McLaren, of Carlisle, operated, lost two ounces of blood; a second patient, under Mr. Cowell's care, at the Westminster Hospital, lost three ounces; and the third case, where Mr. Paul Swain, of Plymouth, performed amputation with the assistance of Dr. Bampton, lost but one ounce and a half. All these patients are progressing favorably.—*British Medical Journal.*

DECOCTION OF ONIONS IN MILK IN DROPSY.—Dr. Resquez claims to have obtained the greatest benefit in the treatment of various forms of dropsy by the use of a decoction of onions made by boiling in milk.—*L'Abeille Méd.*

OBSTETRICS.

THE SOURCE OF THE LIQUOR AMNII.—Prof. A. R. Simpson, in an interesting communication to the Edinburgh Obstetrical Society, discusses the source of the liquor amnii, especially in connection with two cases of hydramnios, in which careful examination was made of the fœtuses, and with the light thrown upon the subject by recent literature, of which he appends a bibliography.

"The chief point of debate in recent times has been as to the share taken by the fœtal kidneys in producing the liquor amnii. According to Gusserow and his followers, this fluid is in the latter months of gestation almost entirely derived from the urine of the fœtus, which is supposed to be secreted regularly by the kidneys, and evacuated from time to time from the bladder. Wiener even goes so far as to aver that whilst at the very first the liquor amnii is derived from the skin of the embryo, soon after the fourth week, the Wolffian bodies begin to furnish a fluid which escapes into the amniotic cavity; this is thus kept distended first by the activity of the primitive kidneys, and then by the more fully developed organ. . . .

"The proof of the renal origin of the liquor is sought (1) in the presence of chemical matters such as indigo, introduced into the fœtus indirectly through the mother's blood, or directly by hypodermic injection into its own body, and secreted by kidneys; (2) in cases where the urinary bladder of the fœtus has been found distended; (3 in the hodronephroses which result from occlusion of the urinary outlets.

"1. As to the first, I can only say that after reading the papers descriptive of the experiments of Gusserow, Wiener, and others, I cannot see that more is proved than that the renal function of the fœtus is sometimes called into activity, and that the distended bladder may easily be emptied into the amniotic sac. Wiener says, 'There is no fact which compels us to doubt the regular secretion of the fœtal kidneys and the occasional evacuation of the urine into the liquor amnii.' But what we want are the facts which will compel us to believe in more than an occasional secretion and accidental evacuation of fœtal urine. There is abundant evidence from experiment and observation to show that the fœtal kidneys can and do sometimes secrete actively enough. What is wanting is evidence to show that there is a necessity for continuous renal activity more than there is for hepatic or pulmonary activity in the fœtus in utero.

"2. This leads me to notice the second ground on which the theory of the regular renal activity of the intra-uterine fœtus is sustained,—viz.: the observation that the fœtal bladder has sometimes been found distended with urine. Such a case is related by Wiener of a woman who died of a burst varicose vein when far advanced in pregnancy, and in whose uterus the fœtus was found to have the bladder tensely filled with urine. The case admirably helps to prove the point which Wiener is then affirming in his polemic with Ahfield as to the influence of intra-uterine pressure on the fœtal secretion and excretion, but it in no way proves habitual renal activity in ordinary conditions; it simply shows that when depuration of the fœtal blood is suspended in the placenta in consequence of maternal hemorrhage, the functional activity of the fœtal kidneys is at once called into play. Where the interruption to the placental circulation sets in more rudely, we constantly see a corresponding effort at functional activity of the fœtal lungs—an effort, however, that is futile, because the fœtus is shut up in its water-filled sac.

"3. The group of cases where the urinary ducts are atresic at some point and dilated above has also been called into court in support of the theory of the regular activity of the fœtal kidneys; but if they prove anything, they prove that regular renal action is unnecessary in the intra-uterine fœtus. One of the most interesting cases that has recently been recorded we owe to Prof. Rindfleisch. A six-week-old child, which had from birth suffered from difficulty in the evacuation of the bladder, died of pleural effusion. The difficulty was found to have been due to hypertrophy of the caput gallinaginis, which had led to vesical hypertrophy and double hydronephrosis. This is to me the more interesting, that some months ago I met with a parallel case. At the post-mortem examination, which Dr. D. B. Hart and I made hurriedly by gaslight, we did not determine the exact seat of obstruction further than that it was below the neck of the bladder. The child appeared healthy at birth, and was well for three weeks, when it began to feed less willingly and to suffer from sickness. The nurse stated that, though the infant regularly wetted its clothes, she had never seen it pass water in a stream, only in drops. The lower limbs and abdomen became anasarcous, the peritoneum ascitic, and the infant died rather suddenly, within five weeks of its birth, with double pleural effusion. The urinary organs were found as in Rindfleisch's case. That distinguished pathologist supposes that the distention of the ureters and kidneys had begun in utero, and that such cases afford a proof of intra-uterine renal secretion. But it seems to me that we must rather suppose that in utero the renal activity had not been called out, and that it was only after the child was born that the function of the kidneys was established, leading first to hypertrophy of the bladder, then, secondarily, to hydronephrosis, and finally to a fatal issue from the serous effusions resulting from the impediment to renal action. So long as the child was in the uterus, having its blood depurated in the placenta, the urethral obstruction caused no disturbance. Within five or six weeks of the day when the renal activity became necessary for blood depuration, it led to the death of the infant. Does that not mean that during the six weeks antecedent to birth the *rôle* of the kidneys was entirely passive, so that a strictured urethra was a matter of indifference, and the healthy development of the fœtus was in all respects unmodified and that immediately after birth the renal function was called into activity, and the urethral interference with it at once began to tell on the health of the child, and within six weeks caused its death?

"Whilst it seems to me, therefore, that we are not warranted in looking to the kidneys as the main source of supply of the liquor amnii, even during the latter months of gestation, I by no means deny the occasional and accidental evacuation of the bladder in the amniotic sac, and I am not prepared to give a definite opinion as to the ordinary source of the amniotic liquid. I think we are wisest to acknowledge our ignorance.

"Perhaps some light may come to us by a more careful observation of our cases of hydramnios. The transactions of our Society bear ample testimony to the tendency, to which I drew its attention some twenty years ago, of women giving birth to anencephalic children to be affected with excess of the liquor amnii. It was curiously illustrated in the cases of two patients who were confined in the Maternity within the same twenty-four hours, and whose histories are fully recorded in the last Quarterly Report. These two cases had this in common: that anencephalic fœtuses were born, and the birth was attended with the escape of an excessive quantity of liquor amnii.

"I am here diverted from the main current of this communication to call attention to the differences between these two cases, as they illustrate a cause for the excessive accumulation of the amniotic fluid which has not been specially registered, so far as I have noticed, among the causes of hydramnios. In the first case we have to do with a multipara in her eighth pregnancy; in the second the patient was primiparous. In the first the fœtus was simply anencephalic; in the second the spinal column was at the same time bifid in all its extent. If the excess of liquor amnii be due (as in such cases I have tried to show it to be) to the secretion from this exposed serous surface, the excess might have been expected to be greatest in the case where the extensive bifidity of the spine gave an additional area of secretion. The excess, however, was most marked in the first of the cases. In that patient it was such that she overpassed the normal duration of pregnancy. She came into the Maternity about the expected date of her confinement with symptoms of labor, which passed off. The uterus was so overdistended that though contractions set in from time to time which seemed to indicate the onset of labor, they always subsided again, until the fœtus died. The membranes decayed and burst and allowed of the escape of some of the liquid. It was only after the waters had some time passed, that effective uterine effort could take place. Now, I suggest that the greater excess of liquor amnii in the first than in the second case is to be explained by the greater laxity of the uterine walls of a multipara. The well-known statistics of McClintock gives only five out of thirty-three cases in primiparous patients; of the twenty-eight multiparous cases, eight were second labors, one a twelfth, the rest intermediate. Whatever the source of the liquor amnii may be, the degree of tonicity and tension of the muscular walls of the uterus must have a large influence in determining the amount that is allowed to accumulate; and any loss of tonicity in these muscular walls will favor the occurrence of hydramnios.

"Reverting now to the possible sources of the liquor amnii, it had occurred to me that in these cases one should find in the condition of the kidneys some evidence of unusual functional activity, if their secretion were the usual source of supply. By some mishap both of the fœtuses had been destroyed without the special examination being made; but soon afterward Dr. Alexander sent me for class demonstration, another anencephalic fœtus with bifid spine, the birth of which also had been attended with the escape of an unusual flood of waters. I show you now the urinary organs. The bladder and ureters are empty, but perfectly developed, though no urine has passed through them. The kidneys, right and left, are small, and have undergone cystic degeneration, evidently from an early period. Here there can be no possibility of any participation of the kidneys in the production of the liquor amnii. The liquor was unusually abundant, but the kidneys were functionally useless. It will be of some importance in such cases to collect and analyze the liquid, so as to compare it with analysis in normal cases; but unless there be shown to be a peculiarity hitherto unsuspected in the nature of the fluid from a hydramniotic ovum, we must conclude that the secretion and accumulation of amniotic fluid can go on quite independently of the functional activity of the fœtal kidneys."—*Edin. Med. Jour.*

TREATMENT OF VOMITING IN PREGNANCY.—Prof. C. Braun, of Vienna, reports a case to which he was summoned, the patient being regarded as moribund. She was in the first half of her pregnancy and extremely reduced in consequence of intractable vomiting. The physician in charge had decided on producing premature delivery as a last resource. Braun, who has often opposed this practice, decided instead to bathe the vaginal portion of the cervix with a ten-per cent. solution of nitrate of silver. This was done, and the surface quickly dried to prevent further cauterization. The success of the treatment was so immediate and so great that an hour afterward the patient enjoyed a meal of roast veal, and there has been no vomiting since. Prof. Braun thinks that hyperemesis should be expunged from the list of indications for artificial abortion. He has never seen a case of death from hyperemesis. In France, where abortion is frequently induced to relieve this symptom, it is found that the vomiting is thereby stayed in only forty per cent. of the cases, while in ten per cent. the operation has been fatal.—*Allgm. Wiener Med. Zeitung.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, September 2d, 1882.

The Week.

MEDICAL STUDENTS in goodly numbers are already matriculating in the Cincinnati medical colleges. Such events portend for good to the future members of the medical profession, and a laudable anxiety to attend full and long courses of study and lectures are to be commended. The graduation of men on the phenomenon plan should be frowned upon and absolutely forbidden by law. Thorough courses of instruction, obligatory attendance and strict examinations should be the motto of every medical college with no individual exceptions permitted to evade the motto.

THE ACADEMY OF MEDICINE will begin regular weekly meetings in LANCET HALL next Monday evening, September 4th.

DR. W. W. SEELY has returned from his summer vacation.

Miscellany.

MONAKOW ON EXCISION OF THE CORTEX CEREBRI IN NEW-BORN RABBITS.—Monakow, in the *Archiv f. Psych.*, vol. xii., p. 141 and 535, gives the results of some experiments he made with the view of determining the relations between different parts of the cerebral cortex and the basal ganglia. He followed Gudden's method, excising circumscribed portions of the cortex in new-born animals, and carefully noting the resulting atrophy in the adult animals.

Gudden had already shown that the removal of a hemisphere in new-born rabbits and dogs caused arrest of development in the optic thalamus and the corpora geniculata externa and interna, while the corpus striatum remained unaffected. Monakow's experiments confirm these results, and demonstrate further that extirpation of circumscribed portions of the cortex—and it matters not whether these portions have a motor or a sensory significance—is followed by localized atrophies of the nuclei of the optic thalamus and the adjoining parts. Thus we have a zone of the cortex, destruction of which causes atrophy of the corpus geniculatum externum, and it may, for convenience sake, be called the zone of the corpus geniculatum externum. In the same way we have the zone of the corpus geniculatum internum, the zone of the external nucleus of the optic thalamus, the zone of the stratum reticulatum (Gitterschicht), the zone of the tuberculum anterius, or superior nucleus, and the zone of the internal nucleus. We shall now indicate the position of these cortical zones, and shall give more fully the results that follow their excision.

The *zone of the corpus geniculatum externum* occupies the postero-superior part of the cerebrum. It is a large area, forming almost a third part of the hemisphere. Removal of it caused atrophy of the posterior third of the internal capsule, the corpus genic. ext., the lateral layer of the optic thalamus, the optic tract, and in a slight degree the tractus pedunc. transv., the anterior tubercle of the corp. quadrig., and the optic nerve. This area corresponds with Munk's visual sphere. The *zone of the corp. genic. int.* is situated below the former, and occupies the postero-inferior portion of the hemisphere. There is reason to believe that it corresponds with Munk's auditory sphere, in which case the corp. genic. int. would bear the same relation to the auditory nerve that the corp. genic. extern. does to the optic nerve. Extirpation of it caused atrophy of the inferior and posterior portion of the internal capsule, the corp. genic. int. and in a less measure the posterior portion of the stratum reticulatum. The *zone of the external nucleus* lies in front and destruction of it caused atrophy of the third fifth of the internal capsule, the external nucleus, the outer portion of the crusta, and to a less extent the laminæ springing from the external nucleus, the formatio reticularis, the middle cerebellar peduncle, and the corp. trapez. The *zone of the stratum reticulatum*, or Gitterschicht, is on the outer side of the previous zone, Extirpation of it caused atrophy of the third fifth of the internal capsule, a part of the lateral portion of the crusta, the anterior portion of the stratum reticulatum, and to a less degree the posterior portion with its continuation into the tegmentum. The animals in which this zone was removed did not live longer than four weeks. Monakow is unable to assign the functions of these zones, though he surmises that they are sensory. The *zone of the tuberculum anterius* is situated in front of zone. Extirpation of it caused atrophy of the tuberc. ant., the anterior portion of the internal capsule, a part of the pyramidal tract, and a less considerable atrophy of the laminæ med. of the anterior tubercle, and the bundle of Vicq d'Azyr. The *zone of the internal nucleus* occupies the most anterior portion of the brain. Extirpation of it causes atrophy of the most anterior portion of the internal capsule, and partial atrophy of the pyramidal tract and the internal nucleus. The direct tract, according to Monakow, contains fibres of the facial and hypoglossal nerves.

The atrophies observed in the above experiments may be classed under three heads, atrophy of fibres leading to the nuclei of the optic thalamus and of these nuclei themselves, atrophy of fibres leading direct to the periphery, and atrophy of fibres arising from the implicated nuclei and passing downwards to the tegmentum.—*Brain.*

OPIUM IN CHINA. HOW MANY SMOKERS DOES THE DRUG SUPPLY?—With the desire of finding a tolerably accurate answer to the above question, the inspector-general of customs in China sent out three years ago a circular accompanied by a series of tables. These were sent to the commissioners of customs at about twenty ports along the coast and on the Yangtze River, by whom the blanks were to be filled and returned. These returns, from which an approximate answer to the question is derived, are just published in a special number of the Imperial Maritime Customs Reports.

The annual importation of foreign opium into China is said to amount to 100,000 chests, or 13,300,000 pounds, each chest containing 100 catties, and the catty being equal to 1⅓ pounds avoirdupois. The raw drug loses about thirty per cent. of its weight when boiled down and converted into prepared opium. The retailers receive, therefore, about 9,310,000 pounds for distribution among consumers. This total amount of imported opium costs, the duties paid, £16,800,000, and the quantity consumed *per diem* £46,027. The average smoker consumes 3 mace or $\frac{6}{15}$ of an ounce avoirdupois daily, at a cost of about 22 cents; this amount suffices for from thirty to forty pipes. The total quantity of imported opium being divided by the total quantity each average smoker consumes daily, the conclusion each reached that there are in round numbers somewhat above 1,000,000 smokers of foreign opium in China.

The population of the country is spoken of as amounting to more than 400,000,000; the inspector-general estimates it at 300,000,000, and concludes that opium smoking as supplied by foreign opium is practiced by one-third of one per cent. of the population.

Reliable statistics concerning the total amount of native opium produced cannot be obtained. In the present report it is estimated as equal to the foreign importation, and it sells for half the price of the imported drug. The total amount spent by China for this indulgence is, therefore, according to these estimates, annually about £25,000,000, the total number of smokers 2,000,000, and the daily expenditure of individual smokers from 10 to 22 cents.

Inspector-General Hart says the Chinese who have studied the opium question are opposed to a traffic which more or less harms smokers, now numbering over 2,000,000; and annually increasing; at the same time they admit that opium provides a large revenue, and that the expenditure for opium and liability to the incidence of opium taxation touch an infinitesimally small percentage of the population, and that neither the finances of the State, nor the wealth of its people, nor the growth of its population, can be specially damaged by an indulgence which draws so little from the pockets of those addicted to it, and which is partaken of by only two-thirds of one per cent. of the population. They admit all this, but they do not find in either the revenue produced or the statistical demonstration of its percentage innocuousness any sufficient reason for welcoming the growth of the trade, or for desisting from the attempt to check the consumption of opium.—*Boston Med. and Surg. Journal.*

NERVE-STRETCHING.—This subject has, of late, attracted so much attention, that the following extracts, translated from a letter to the editor of the *Deutsche Medicin. Wochenschrift*, will doubtless be read with interest. The writer, one 'Dr. Dehner,' states:—'I have now stretched the ureters, in about 20 cases of granular kidney, with the most marked results. The patients passed much less urine after the operation than before, and the albumen was diminished. In one case, I am bound to confess, the ureter was torn through and I found myself compelled to establish a permanent fistula in the abdominal wall. One other case came to an end, three months later, from cerebral hemorrhage; the other symptoms, however, of the renal mischief had been much relieved. The anatomical appearances, post-mortem, were interesting. Superficially, there was, indeed, the ordinary condition of contracted kidney, and doubtless pathological anatomists, of a certain stamp, and carping histological pedants, would have discovered but little else. To me, however, even a rapid examination of the degenerated spots revealed certain cell formations which I could at once recognize as newly formed epithelium. From a circumscribed spot on each of these cells there exuded a tiny drop of fluid, which gave (under the microscope) the most distinct response to the murexide test.' Further, he says: 'I have lately stretched the hepatic duct in the case of a man with cirrhosis of the liver, and I intend shortly to stretch, in chronic contraction of the lung, not only the pneumogastric nerves but also the bronchi, with great results. Might not, also, general paralysis of the insane be cured by simple extraction of teeth, for this operation is always accompanied by pulling and stretching of the respective twigs of the dental nerve? I will try it. A new era is dawning! Here is, indeed an art, and while we live, let us stretch!' To enable our readers who do not know German to understand this lively production, we may inform them that 'Dehnert' signifies 'stretcher,' and that, as a proper name, it is not to be found in Dr. Börner's *Reick's Med. Kal.*—*London Med. Record.*

DETECTION OF IODINE IN THE URINE OF PATIENTS TREATED WITH IODOFORM.—C. Bernbeck tried to obtain an iodine reaction by following Neubauer and Vogel's directions, to distil the urine with sulphuric acid. All the iodine is thereby supposed to pass into the distillate. This process was, however, found impracticable, on account of the high degree of dilution. Direct shaking of the iodine-holding urine with chloroform or carbon disulphide was also found useless, since the separated layers refuse to become clear.

The following method, however, was successful, 200 *cc.* of the urine are mixed with solution of potassa to alkaline reaction, then evaporated to dryness, and the residue ignited, in order to destroy organic substances. The resulting ash is extracted with boiling alcohol, the solution filtered and the alcohol evaporated off on a water-bath. The residue is redissolved in a few *cc.* of distilled water, this solution mixed with a few drops of sulphuric acid previously exposed to the fumes of nitrous acid, and afterwards with a little carbon disulphide. After shaking the latter assumes the well-known tint if iodine was present. Chlorine water is less suitable for the separation of iodine, since any excess will produce a colorless compound with iodine.

If there is more than a trace of iodine present it may be determined, in aqueous solution, by palladium chloride.—*Pharm. Zeit.*, No. 29.

NEW METHOD OF PREPARING BLISTERS.—Mr. Limousin has devised a new form of blisters, with a view to afford to the physician a greater variety of choice in degree and kind of vesication, and also with a view to preserve the ready-made blister in better condition than is usually the case.

He spreads a thin layer of ordinary blistering cerate upon strong, thin, unsized paper, and covers it with the same. The vesicating layer is about one and a half millimeters in thickness, and one of its surfaces is camphorated. When using the blister, its outline is marked upon the paper covering it; it is then cut off, and applied to the part by means of a piece of adhesive plaster. The covering paper may be readily removed, both from the plain and from the camphorated side, by means of a wet sponge. If the physician orders a blister covered with oiled paper, it is only necessary to saturate the covering paper with oil.

The same process may be also used for the preparation of other plasters.—*Rép. de Pharm.*

NAPHTHALINE AS AN ANTISEPTIC.—Naphthaline has recently found a new and important use in medicine. It has been found that this hydrocarbon is an excellent antiseptic, which kills fungi and bacteria in a short time. For surgical bandages and in contagious diseases, as far as experiments have been made, it has answered an excellent purpose, and seems well adapted to replace in many cases those antiseptics now so much used, namely, carbolic and salicylic acids, and iodoform. It has one great advantage over carbolic acid, being absolutely free from poison, and can therefore be used in any desired quantity without causing any disturbances. It also surpasses all other antiseptics in cheapness. As 100 kilos of pure naphthaline can be bought for 60 marks (about seven cents per pound), there is no doubt that it will soon find general use for medical purposes.—*Scientific American.*

THE CHEMICAL CAUSE OF LIFE.—Up to within a few years physiology did not suspect that there was any chemical difference between dead and living protoplasm. Many still will say there is none. But recent researches beginning by an article of Pflüger's in 1875, point strongly in an opposite direction. One of the ablest essays in the affirmative was written last year by Dr. Oscar Loew, and Dr. Bokorny, and published in Munich. The result of their investigation goes to show that living protoplasm owes its property of life to the presence of aldehyde groups which are characterized by intensely active atomic movement. When death takes place, it is coeval with and caused by a transformation of these aldehyde groups into amyd groups, with diminished molecular motion, thus leading to cessation of action. — *Medical Press.*

THE EFFECTS OF DEPRESSION OF THE CRANIUM.—In an elaborate memoir on the subsequent effects of depression of the cranium in childhood, Dr. Guermonprey draws the following conclusions:

1. Depression of the cranium, whether complicated or not, can, in a general manner, be the cause of various psychical disturbances.
2. These disturbances are more important when the depression is located in the frontal region, particularly on the left side.
3. The depression may act as an interference to the normal development of the psychical function and growth of the brain.—*Arch. Gen. de Med.*

MOSQUITO OIL.—A correspondent from Sheepshead Bay, a place celebrated for the size of its mosquitoes and the number of its amateur fishermen, recommends the following as a very good mixture for anointing the face and hands while fishing:

Oil of tar	1 ounce.
Olive oil	2 "
Oil of pennyroyal	½ "
Spirit of camphor	½ "
Glycerine	½ "
Carbolic acid	2 drachms.

Mix. Shake well before using.—*Ex.*

GAULTHERIA AS AN ANTISEPTIC. — Gosselin uses the oil or spirit of winter-green as a dressing in surgical injuries and old suppurating surfaces, with good results. The proportion of oil in the tincture is about ten per cent. It is claimed that this is more agreeable than the common antiseptics, and is equally as efficient. — *Phil. Med. Times.*

Original Communications.

SYPHILIS AND MARRIAGE.

FORDYCE GRINNELL, M.D.,
Physician to Pine Ridge Indian Agency, Dakota.

In a recent work by Alfred Fournier entitled "Syphilis and Marriage" are found many valuable hints and suggestions, and much matter not before presented to the profession, with which the general practitioner, as well as the specialist, should be familiar.

And yet from his own showing, his arguments have not failed to do other than convince us that the man once infected with that constitutional disease, syphilis, should forever after abjure matrimony.

On pages 101 and 102, Dr. Fournier tells us "that the initial benignity of a syphilis by no means constitutes an absolute guarantee for the future. Such a syphilis, although beginning well, is no less liable on that account to end badly. It is thus very frequently that one observes patients, who, while presenting at the début of the diathesis only slight, almost insignificant secondary accidents, are afflicted after a long interval—*ten, fifteen or twenty years later*[1]—with the most severe tertiary manifestations."

And, again, page 103: "It is thus that certain subjects remain exposed during many consecutive years, sometimes *even in spite of the best regular treatment*, to erosive lesions, localized especially in the mouth, affecting more rarely the genital mucous surface. These lesions are always superficial, limited, benign; they are cured with the utmost facility under the influence of cauterization, aided by certain local attention, but they *are cured only to be reproduced—to be incessantly renewed.* Intrinsically, they are of no importance; but, for all that, they are none the less *dangerous as regards contagion.*

From all this it is evident that no certain immunity from syphilitic manifestations can be promised the individual once infected by the disease.

From all this it is evident that no certain immunity from syphilitic manifestations can be promised the individual once infected by the disease.

What then should the physician advise in the case? Can he consistently give his consent as a professional adviser to the marriage of such an one?

Would he knowingly permit his own daughter to contract such an alliance?

The golden rule applies here as well as elsewhere: "Whatsoever ye would that men should do to you, do ye even so to them."

In the first place a false modesty should not prohibit us from teaching our sons and daughters at an early age, the woeful consequences of indulging in vice, that there is such a disease as syphilis, its baneful consequences, and that he who once contracts the disease should forever be debarred from matrimony.

With such teaching probably the daughters at least would be a little more careful whom they accepted as suitors; and this in its turn would react favorably upon that class of young men who so carelessly risk life, health and reputation.

It may readily be imagined that if such teaching should obtain, our young men would be less likely to run the fearful risk of contracting a disease which, like the mark of Cain, might remain a life-long reminder of broken laws, than the instruction of those who would encourage alliances which they themselves admit *may result* in the most serious consequences to wife and children and generations yet to be.

Have those who have thus brought upon themselves loathsome diseases any right to run the risk of propagating them? Can one of these with any decency ask a pure woman to unite herself with him?

Is not the physician culpable who gives his moral support to such procedures? Cannot the world well spare the progeny which such fathers are likely to beget? A progeny which public charity is likely sooner or later to be required to support in some one of the asylums for the incompetent in either mind or body.

The only honorable course for the individual, once infected with pox, is that referred to by Dr. Fournier, as pursued by one of his confrères.

"One of them," he says, "a most distinguished physician, whose heart is on a level with his talent, has never allowed himself to be dissuaded by me (who have the honor to be his friend) from that which he terms his incapacity for marriage. "You have spoken to no purpose," he has repeated to me a hundred times. When one has the pox one should keep it to himself without running the risk of giving it to others, especially to his wife and children. A right determination indeed and, as it appears to us, the only honorable one for a member of our profession to choose, either for himself or by advice for others.

But Fournier replies "When one has the pox one should cure it; and when by force of care one has rendered it innocuous for others as well as himself, then having again entered upon a normal condition, one has the moral right to aspire to marriage."

But let us see whether Dr. Fournier or anyone else can tell us when one has rendered syphilis innocuous for others as well as himself.

On page 107 of his work Dr. Fournier says, in reference to cerebral complications: "But, if, nevertheless, the diathesis, although positively affecting the brain, has limited itself to the most superficial expressions, to the lightest, most benign functional troubles, then only should I consider myself justified in departing from an absolute interdiction. But, even then, I should not grant my consent until after a mature analysis of the clinical features, and the fulfillment of certain express conditions, such as the following: If the patient is absolutely cured of every cerebral trouble; if he has been a long time cured, that is to say several years at the minimum; if, since then, no new accident, however slight, has occurred; if the most energetic treatment has been followed since the *cure* (?); if a long period of immunity, after the suspension of the treatment, appears to prove a complete cure, etc. *And still—I confess it—even in spite of these guaranties, it would not be without a secret apprehension—it would be only reluctantly and with a veritable regret*—that I should allow, upon my own responsibility, a patient who had been affected with such accidents to engage himself in marriage."

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[1] Italics our own.

If Dr. Fournier had secret apprehensions of the results of marriage, after the fulfillment on the part of the patient of all the conditions enumerated, who would dare to assume the responsibility of giving assent in any case and assuring his patient that no evil results would follow?

Dr. Bumstead says, on page 479 of his work on Venereal Diseases, "Never after treatment, however prolonged, do I promise certain immunity for the future."

Dr. Baumler says, in his article on Syphilis in Volume III Ziemssen's Cyclopædia, when discussing the question of the propriety of permitting marriage by persons infected, "Although as long as the slightest trace of syphilis can be discovered there can be no doubt that a decided negative should be given by the physician to all such inquiries, it is extremely difficult to state how long a time must elapse, after the disappearance of all symptoms, to do away with all danger of infection. *In such cases it is impossible to give a positive answer.* When a man has enjoyed one, or still better, several years of undisturbed good health after the disappearance of all symptoms of syphilis, he may be allowed to marry; but, although, under these circumstances there is no direct danger of his infecting his wife, there is no certainty, but only a strong probability, that his offspring will be healthy. The difficulty above referred to, *that there is no absolute certain sign of the complete cure of syphilis* is nowhere more manifest than in the consideration of this question."

These are certainly peculiar admissions for a professional man to make. That there is no absolute certain sign of the complete cure of syphilis, and that there is no certainty that the children of such will not be infected, and yet these may marry!

One cannot help reflecting "such a permission will no doubt eventually increase the doctors income;" but how one can strain the rules of propriety to such a degree it is difficult to conceive.

Let it be admitted with Drs. Fournier and Baumlier and others, that some persons who have been infected with syphilis may afterwards marry, and even beget children who appear to be free from syphilitic taint, yet when we have to admit with these same specialists—

1st. That there is no absolute certain sign of the complete cure of syphilis, and—

2nd. That there is no certainty that the children of such will not be infected, I cannot conceive how any physician can consistently give his consent—his professional sanction—to the marriage of one who has once become infected with syphilis.

THE very complete report of the proceedings of the American Dental Association that appeared in the LANCET AND CLINIC, August 12th, should have been credited to Dr. W. D. Kempton, of this city, as the reporter.

Selections.

MEDICINE.

THE SYSTEMATIC TREATMENT OF AGGRAVATED HYSTERIA AND CERTAIN ALLIED FORMS NEURASTHENIC DISEASE.—The following is an introduction to a discussion in the Medical Section of the British Medical Association at Worcester, on August 9th, 1882, by W. S. Playfair, M.D., F.R.C.S., and publised in the *British Medical Journal*:

Gentlemen:—When your President did me the honor of asking me to open a discussion on the Systematic Treatment of Hysterical Neurasthenic Diseases, to which I had already drawn the attention of the profession in a series of papers in the *Lancet* in May, June, and November of last year, I suggested to him that he should endeavor to persuade Dr. Weir Mitchell, of Philadelphia, whose method I had adopted and carried into practice, to undertake himself the task he had proposed to me. I much regret, for your sakes, gentlemen, that Dr. Mitchell was unable to accept your President's invitation, for I am sure that it would have been most interesting and profitable to have heard from that distinguished physician an exposition of his views on a matter of such great practical moment. Until I had actually put into practice Dr. Mitchell's method, I, in common, I am sure, with the vast majority of his profession, looked upon the distressing and unhappily common cases we are about to discuss as a very opprobrium to medicine. Nothing could possibly be more hopeless than the experience of all of us with these wretched instances of broken and shattered lives, these bed-ridden, helpless creatures, who became a burden not only to themselves but to all around them, making happy homes miserable, and exhausting at once the patience, and the resources of those who are responsible for their care. Who is there amongst us who cannot point to some typical example of this kind, in which the patient at least, after every sort of treatment and drug has been used; after not one, but twenty doctors had been consulted; after every method, orthodox and heterodox, has been used in vain, has been allowed to drift into this hopeless state to which I have alluded, from pure despair of alleviating her sufferings, which are none the less real because we are satisfied that they are purely functional, and are not associated with any organic disease. To teach us how to lift such cases from the slough into which they had fallen is no slight achievement: and I may say, without exageration, that, having paid great attention to this subject for the last eighteen months, I have not only acquired a daily increasing confidence in the value of Weir Mitchell's method, but have had more satisfactory and surprising results from it than I have ever before witnessed in any branch of my professional experience, and that I now more confidently undertake the care of a well selected case of this kind, than I do of almost any malady that comes under my charge. The reason for this confidence and this success is, I think, not far to seek. We have to do with cases which are, to a great extent, psychological in origin. Heretofore, although all well instructed physicians recognized this fact, they have not been in the habit of trusting to methods of treatment which were based on a scientific conception of the nature of the disease.

In default of other means, recourse has been had to an useless system of drugging with the so-called nervine tonics, while the patient has been left to the unaltered morbid influence of the physiological causes, which, in nine case of ten, have so large a share in the production of the illness. Although the grave forms of hysterical disease we are considering differ from each other in endless variations, the peculiarities of each requiring most careful study, there is scarcely a single one of them in which unhealthy mental influences do not play a most important part, if not in causing, certainly in keeping up the disease. The injudicious and constant nursing, the craving for sympathy, the fact that the sick-room becomes the centre of interest for the patient and her friends, the constant discussion of feelings and symptoms, all have a most marked and prejudicial effect; and so long as these continue in operation no course of medicine or treatment, however judicious, has any reasonable prospect of success. As I shall presently show, the complete and perfect isolation of the patient from all these unhealthy conditions forms the very foundation and essence of the systematic management of these cases; and when once this has been accomplished, an enormous leverage has been obtained for the successful application of other methods of cure. I do not propose to occupy your time with any long description of the forms and symptoms of hysterical disease to which the treatment is applicable, or to their pathology. No study could be more interesting, but the time at my disposal is altogether insufficient for such a task. I shall, therefore, content myself with a very brief outline sketch of the typical instances of neurasthenic disease in which systematic treatment is of most use, and follow this by an equally short sketch of what that treatment consists. And I must beg my hearers to remember that I cannot enter into any but the most elementary details on both these topics, for a fuller account of which I must refer them to the writings of Wier Mitchell, and Goodell, as well as to my own former papers. I may say here that while the latter were entitled, "The Systematic Treatment of Nerve-Prostration and Hysteria connected with Uterine Disease," this was chiefly because my attention was first directed to the subject in consequence of the frequent association of these states with disease of the reproductive organs in the female. It would be a great mistake, however, to conclude that there is any necessary or constant connection between the two. Indeed, although very frequently the nerve-state has originated in connection with uterine disease, in a large proportion of the cases it has completely overshadowed the originating local disorder. I am sure that I could not, in common honesty, make the somewhat humiliating confession that in many instances over much and injudicious local treatment has, in my opinion, at least intensified, and kept up the now dominating neurasthenic disorder, as in a case under my care as I write, in which the patient may fairly be said to be suffering from pessary on the brain—so incessantly is she thinking of one or other of the seventy-nine different instruments which she has had inserted in the last few years in America and in this country.

It is, perhaps, superfluous to recall to your minds the extremely varying and complex forms of the neurasthenic diseases, which may be fairly classed under the heading I have selected for this communication. Still I think it likely that it is only those medical men who have paid special attention to this subject, and who have had opportunities of watching cases of this description, that have properly realized how multiform, strange, and misleading these nervous diseases really are. As a matter of fact, probably no two cases are ever precisely alike, and every individual instance calls for the most careful and minute study, if we are to hope for a successful result in its management, not only of its physical symptoms, to make sure that we do not confound real but obscure organic lesion with simple functional disorder, but also of the special mental character of the patient, since much of our success must depend on a judicious reading of this, and on our tact in dealing with it. Any who who attempts to treat such diseases without careful study of the physiological characteristics of each individual patient, will inevitably fail.

The type of case best adapted for systematic treatment is, in my experience, the worn and wasted, often bed-ridden woman, who has broken down, either from sudden shock, such as grief, or money losses, or excessive mental or bodily strain. At first, perhaps, there may have been only a debility, constantly however on the increase, daily more and more yielded to, until at last all power of effort is lost, fostered too often by injudicious sympathy, and the constant nursing of devoted relatives and friends. Coincident with this is the total loss of appetite, the profound anæmia, and the consequent wasting of the tissues, so characteristic of these cases. On the soil so prepared are often developed the graver protean forms of hysterical disease, such as paresis, or paralysis, vomiting, disorder of motion, hystero-epilepsies, and many others which constitute the despair of the physician, and which must be more or less familiar to all of you. Such, in endless variations, are the cases which those of you who have attempted to cure them by ordinary medication will, I am sure, admit to have given unsatisfactory results, and caused more disappointment than almost any other in practice.

Now, the principal elements in the systematic treatment of these cases are:

1. The removal of the patient from unhealthy home-influences, and placing her at absolute rest.

2. The production of muscular waste, and the consequent possibility of assimilating food by what have been called "mechanical tonics;" viz.: prolonged movement and massage of the muscles by a trained shampooner, and muscular contractions produced by electricity.

3. Supplying the waste so produced by regular and excessive feeding, so that the whole system, and the nervous system in particular, shall be nourished in spite of the patient.

On each of these I shall offer one or two brief observations.

1. The removal of the patient from her home-surroundings, and her complete isolation in lodgings with only a nurse in attendance, is a matter of paramount importance. This is a point on which I am most anxious to lay stress, since it is the great crux to the patient and her friends; and constant appeals are made to modify this, which I look upon as an absolute *sine qua non*. I attribute much of the success which I have been fortunate enough to obtain in my cases to a rigid adherence to this rule. In almost every instance of failure in the hands of others of which I have heard, some modification in this rule has been agreed to, in reference to the wishes of the friends; as, for example, treating the case in one room by herself in her own house, or in admitting the occasional visits of some relatives and friends. While, however, the patient is to be rigidly secluded, it is incumbent to secure the attendance of a judicious nurse, with sufficient intelligence and education to form an agreeable companion. To shut up a refined and intellectual woman for six weeks with a coarse-minded stupid nurse, can only lead to failure. I have had more difficulty in obtaining suitable nurses, sufficiently firm to ensure the directions being carried out, and yet not over-harsh and unsympathetic, than in any other part of the treatment. Whenever my case is not doing well, I instantly change the nurse—often with the happiest results. In addition to the isolation, the patient is put at once to bed, to secure absolute rest. In many cases, she is already bed-ridden; in others, there has been a weary protracted effort, and the complete repose, is in itself a great gain and relief.

2. Under the second head comes systematic muscular movement, having for its object the production of tissue waste. This is administered by a trained rubber, and here again is a great practical difficulty. The so-called professional rubbers are, in my experience, worse than useless, and I have had to teach *de novo* a sufficient number of strong, muscular young women; and the aptitude for the work I find to be very far from common, since a large proportion of those I have tried have turned out quite unsuited for it. I cannot attempt any description of this process. I need only say that it consists in a systematic and thorough kneading and movements of the whole muscular system for about three hours daily, the result of which at first is to produce great fatigue, and subsequently a pleasant sense of lassitude. Subsidiary to this is the use of the faradic current for about ten to twenty minutes, twice daily, by which all the muscles are thrown into strong contraction, and the cutaneous-circulation is rendered excessively active. The two combined produce a large amount of muscular waste, which is supplied by excessive feeding; and, in consequence of the increased assimilation and improved nutrition, we have the enormous gain in weight and size which one sees in these cases, it being quite a common thing for a patient to put on from one to two stones in weight in the course of five to six weeks. The feeding, at regular intervals, constitutes a large part of the nurse's work. At first from three to five ounces of milk are given every few hours; and for the first few days the patient is kept on an exclusively milk diet. By this means dyspeptic symptoms are relieved, and the patient is prepared for the assimilation of other food. This is added by degrees, *pari passu* with the production of muscular waste by massage, which is commenced on the third or fourth day. By about the tenth day the patient is shampooed for an hour and a half twice daily, and by this time she is always able to take an amount of food that would appear almost preposterous, did not one find by experience how perfectly it is assimilated, and how rapidly flesh is put on. It is the usual thing for patients to take, when full diet is reached, in addition of two quarts of milk daily, three full meals, viz.: breakfast, consisting of a plate of porridge and cream, fish or bacon, toast and tea, coffee, and cocoa; a luncheon, at 1 p.m., of fish. cutlets or joints, and a sweet, such as stewed fruit and cream, or a milky pudding; dinner at 7 p.m., consisting of soup, fish, joints, and sweets; and, in addition, a cup of raw meat soup at 7 a.m., and 11 p.m. It is really very rare to find the slightest inconvenience result from this apparently enormous dietary. Should there then be an occasional attack of dyspepsia, it is at once relieved by keeping the patient for four and twenty-four hours on milk alone.

Such is a brief outline of the method to which I am here to direct your attention. As to the results, I have already published several remarkable illustrative cases, so that it is perhaps not necessary to do much more in this direction. I may say, on looking back at my cases, that the only ones with which I have any reason to be disappointed are those in which the primary selection has been bad; and in the few in which the results were not thoroughly satisfactory, I had doubts as to their suitability for the treatment, which I expressed beforehand. These include one case of chronic ovarian disease, and one of bad anteflexion with fibroid enlargement of the uterus, in both of which the local disease prevented any really beneficial results. In a third, I had to stop the treatment in a week, in consequence of cardiac mischief; two others were cases of positive mental disease; and in one case there was true epilepsy. I have no doubt that any positive co-existent organic disease of this kind should be contraindicated. In my other cases, the results have been all that could be wished, and in many of them the patients have been restored to perfect health after having been helpless bedridden invalids for years; in one case twenty-three without ever putting a foot to the ground, in others sixteen, nine, six, and so on. In two instances my patients were in such a state, that it was found absolutely impossible to move them except when anæsthetized; and they were brought to London by their medical men long distances under chloroform, in each case leaving in six weeks perfectly cured. I am not desirous of occupying your time by long details of cases, having already published several; but as many of my hearers have probably not seen my former papers, I shall conclude by a short notice of some of my recent cases, which will illustrate the classes of disease in which this method is so useful; and I select them not only for their own interest, but because the uselessness of all ordinary treatment in such conditions is proved by the fact that I have with regard to each of them a list of their former medical attendants, amounting, in one to no fewer than twenty-five in number, and including the names of many of the most eminent consultants in the country, of itself a sufficient proof that all that the most advanced medical knowledge and skill could do had been tried in vain.

Case I. On the 24th of April last, I was consulted on the case of a young lady from the North of England, suffering from intense hysterical vomiting. This had commenced six years previously, after severe mental strain. Latterly she could keep nothing but a single mouthful of milk on her stomach, and this only when mixed with whisky, so that she was taking three to four glasses of spirit daily. She was terribly emaciated, weighing only 4st. 7lbs. Her mother wrote of her, "it is just five years last Christmas-day since she has ever retained a single meal. Her symptoms have been most distressing, and have resisted every kind of treatment. Her young life has been completely blighted, and I have long since given up her case as quite hopeless." The rapidity of the cure, in this instance, was almost ludicrous. In three days after she was isolated, she was keeping down two quarts of milk, it is needless to say no longer with the aid of whisky. In ten days she was eating with an enormous appetite, and in six weeks she left town weighing 7st. 8lbs., a gain of 3st. and 1lb., and has since remained quite well.

Case II. The next case is illustrative of the evil effects of too much education and mental strain, in a clever girl of highly developed nervous organisation. It was placed under my care by the advice of one of our most eminent metropolitan physicians, who had been seeing her frequently in consultation with her own medical attendant for several years, and beside him many other physicians, equally eminent, had been consulted. This young lady was seventeen years of age. At the age of fourteen, when working, she had suddenly broken down, got complete hysterical hemiplegia, and for four years had never been out of bed or moved either of her lower limbs. In addition, she had a loud barking cough, which could be heard all over the house, and which had resisted every kind of medication. No food could be taken beyond milk, and a biscuit, and an orange. This case was placed under my care as a sort test, and I particularly anxious that it should turn out well. As to the result, I need only say that, at the end of a month I drove her out in my carriage, dropped her at the top of the street in which she lived, and made her walk down to pay her parents a visit. She has since remained perfectly well. It was a curious and characteristic point that her cough, which had resisted for years all sorts of energetic treatment at home, entirely ceased forty-eight hours after she was removed, and was never again heard.

Case III. The next instance is one out of many of the same sort I have had under my care, and is a typical example of the kind of case best suited for this treatment. In this, there was no definite illness, no simulated disease, as in the last lady, but a general and complete break down. Her medical man sent her to me with the following note. "She has all her life been an invalid, with no well-defined symptoms; sometimes headache and nausea; at others spinal irritability, giddiness, etc. In fact she is a typical hysteric or neuralgic patient. She never stirs out of the house, or moves from her bed to her sofa, eats next to nothing,and never happy unless seeing a doctor, or taking physic." I found, as was to be expected, that this young lady was wasted to a skeleton. chief complaints were nausea, head ache, back-ache, intense nervous depression, and timidity (so that she was unable to speak to a stranger), and absolute anorexia; skin dry and rough; menstruation irregular; entirely dependent on chloral and morphia for sleep. She was twenty-nine years of age, and for nine years had been entirely on her back. I need say no more about this case, than that it was as successful as the rest of the same type I have had to deal with, any one of which I might have selected as an illustration. In six weeks she was walking about; in two months she started on a sea-voyage with her nurse, with directions that she should be forced to mix as much as possible with the passengers, to overcome her dread of society. Only two days ago, she came to report herself to me, having traveled alone from the country by rail; and I positively did not at first recognize her—so different was the well-dressed, health-looking woman, from the wretched invalid of a few months ago. She tells me that she now plays tennis; goes out to picnics and parties, and enjoys life like anyone else.

Case IV. The last example with which I shall trespass on your patience, I am tempted to relate, because it is one of the most remarkable instances of the strange and multiform phenomena which neurotic disease may present, which it has ever been my lot to witness. The case must be well known to many members of the profession, since there is scarcely a consultant of eminence in the metropolis who has not seen her during the sixteen years her illness has lasted, besides many of the leading practitioners in the numerous health-resorts she has visited in the vain hope of benefit. My first acquaintance with this case is somewhat curious. About two months before I was introduced to the patient, chancing to be walking along the esplanade at Brighton with a medical friend, my attention was directed to a remarkable party at which everyone was looking.

The chief personage in it was a lady reclining at full length on a long couch, and being dragged along, looking the picture of misery, emaciated to the last degree, her head drawn back almost in a state of opisthotonus her hands and arms clenched and contracted, her eyes fixed and staring at the sky. There was something in the whole procession that struck me as being typical of hysteria, and I laughing remarked, "I am sure I could cure that case if I could get her into my hands." All I could learn at the time was that the patient came down to Brighton every autumn, and that my friend had seen her dragged along in the same way for ten or twelve years. On January 14th of this year, I was asked to meet my friend, Dr. Behrend in consultation, and at once recognized the patient as the lady whom I had seen at Brighton. It would be tedious to relate all the neurotic symptoms this patient had exhibited since 1864, when she was first attacked with paralysis of the right arm. Among them—and I quote these from the full notes furnished by Dr. Behrend—were complete paraplegia, left hemiplegia, complete hysterical amaurosis, but from this she recovered in 1868. For all these years she had been practically confined to her bed or couch, and had not passed urine spontaneously for sixteen years. Among other symptoms, I find noted, "awful suffering in spine, head, and eyes," requiring the use of chloral and morphia in large doses. "For many years she has had convulsive attacks of two distinct types, which are obviously of the character of hystero-epilepsy." The following are the brief notes of the condition in which I found her, which I made in my case-book on the day of my first visit. "I found the patient lying on an invalid couch, her left arm paralysed and rigidly contracted, strapped to her body to keep it in position. She was groaning loudly at intervals of a few seconds, from severe pain in her back. When I attempted to shake her right hand she begged me not to touch her, as it would throw her into a convulsion. She is said to have had epilepsy as a child. She has now many times daily, frequently as often as twice in an hour, both during the day and night, attacks of sudden and absolute unconsciousness, from which she recovers with general convulsive movements of the face and body. She had one of these during my visit, and it had all the appearance of an epileptic paroxysm. The left arm and both legs are paralysed, and devoid of sensation. She takes hardly any food, and is terribly emaciated. She is naturally a clever woman, highly educated, but, of late, her memory and intellectual powers are said to be failing."

I was determined that an attempt should be made to cure this case, and she was removed to the Home Hospital in Fitzroy Square. She was so ill, and shrieked and groaned so much on the first night of her admission, that next day I was told that no one in the house had been able to sleep; and I was informed that it would be impossible for her to remain. Between 3 p.m. and 11:30 p.m., she had had nine violent convulsive paroxysms of an epileptic character, lasting, on an average, five minutes. At 11:30 she became absolutely unconscious, and remained so until 2:30 a.m., her attendant thinking she was dying. Next day, she was quieter, and from that time her progress was steady and uniform. On the fourth day, she passed urine spontaneously, and the catheter was never again used. In six weeks, she was out driving and walking; and within two months she went on a sea-voyage to the Cape, looking and feeling perfectly well. When there, her nurse, who accompanied her, had a severe illness, through which her ex-patient nursed her most assiduously. She has since remained, and is at this moment, in robust health, joining with pleasure in society, walking many miles daily, and without a trace of the illnesses which rendered her existence a burden to herself and her friends.

In conclusion, I may remark that it seems to me that the chief value of this systematic treatment, which is capable of producing such remarkable results, is, that it appeals not to one but many influences of a curative character. Everyone knew, in a vague sort of way, that, if an hysterical patient be removed from her morbid surroundings, a great step towards cure is made. Few, however, took the trouble to carry this knowledge into practical action; and, when they did so, they relied on this alone, combined with moral suasion. Now, I am thoroughly convinced that few cases of hysteria can be preached into health. Judicious moral management can do much; but I believe that very few hysterical women are conscious impostors; and the great efficacy of the Weir Mitchell method seems to me to depend on the combination of agencies which, by restoring to a healthy state a weakened and diseased nervous system, cures the patient in spite of herself.

Discussion.

Dr. Clifford Allbutt said that the reason why he had asked Dr. Playfair to open the discussion was, that he had been very much struck by the case, to which Dr. Playfair had not referred, of a lady he had sent to him from Yorkshire, a few months ago. Her removal was said to be impossible, and she could only be taken away under chloroform and swung in a hammock. He could add his testimony to the cure that was effected in that case, and certainly it was of the most astonishing kind. She was a lady of very high culture, and not a hysterical patient of the ordinary kind. She was a person of great mental control, and there was no morbidness about her, and her case was one of a purely physical neurasthenia. She had been ill for an indefinite period, was perfectly helpless, and her life was perhaps more a misery to herself than to anybody about her. But she was cured in about six or eight weeks, then went on a sea-voyage, and is now perfectly well. He also saw a case which put him in a very difficult position, not very long ago. He was asked by the Midland Railway Company to see a lady who had been in a railway accident, and was in a state of hystero-epilepsy. It was absurd to say she was an impostor, but, mindful of these cases, he was obliged to go into the witness-box and say that she could be well in six or eight weeks. It was a strong step to take, and subjected him at the time to a great deal of unfavorable criticism. He did not know whether or not her friends had subjected her to this plan of treatment. With regard to the excessive dietary, he said that a rough observation had been made, with the result of showing that there certainly was no great quantity of undigested material or overflowing luxus of consumption, so that the cure was not entirely a mental one, but was distinctly also a physical, as he supposed Dr. Playfair meant to point out. Finally, he had had one or two cases of male patients, and he should like to ask Dr. Playfair if he had any; also whether he did not think that, in some other cases attended with great defective nutrition, and where there was some degree of organic disease, possibly some amount of malnutrition threatening phthisis, the treatment might not be in some degree extended.

Dr. Ross (Manchester) bore testimony to the great value of the treatment under discussion, He laid stress upon the necessity of complete separation of the patient from her friends, and the selection of a suitable nurse. He believed that, although Dr. Mitchell's treatment was possibly not new in the sense that its separate recommendations were now made for the first time, it was new in the sense that these recommendations were, for the first time, combined so as to form a complete scheme of treatment.

Mr. D. De Berdt Hovell (London) said that, if Dr. Playfair had proved anything, he had proved the absurdity of the term hysteria. Mr. Hovell had for the last twenty years been fighting against the one-eyed pathology which referred all these cases to the uterus and ovaries. No doubt these organs necessarily became involved; but to regard them as the cause was not only to miscall the disease, but to misdirect the treatment. All cases were caused by some circumstances depressing nerve-power, physical shock, a moral shock, and very frequently disappointment. Want of power and susceptibility to irritation were essential conditions of this state, and in many cases recovery was slow because the recuperative power was low. There was also great feeling of helplessness, which was misinterpreted into craving for sympathy. Many patients eventually lapsed into paralysis, or rather paresis. Mr. Hovell was of opinion that the sympathetic system was involved in this disease. He also thought that the condition of exhaustive debility explained the great capacity for food which some patients showed in recovery.

Dr. Myrtle (Harrogate) said he unfortunately lived in a place where, for the last twenty years, hardly a year passed without his seeing one or two cases of hysteria. In his experience, one of the most essential points of treatment was to remove the patient from her usual surroundings; the next was to obtain her confidence. One thing that ought to be considered was, the want of power of co-operation possessed by the patient. Too much must not be attempted, but strong measures must be brought down to the weakness of the power of co-operation in the patients. A further plan was to encourage them in well-doing, as the recovery of many patients was retarded as much by the cold-heartedness of their friends as by the injudicious sympathy of some of them. He was perfectly well aware of the difficulties of dealing with these cases, but he was pleased to hear this paper, because he was perfectly satisfied that these cases were very much misunderstood, both by the patient's friends and the medical attendants.

Dr. Drummond (Newcastle-on-Tyne) said he was exceedingly pleased to have had the opportunity of listening to the able exposition of Dr. Weir Mitchell's plan of treatment of aggravated hysteria by Dr. Playfair. He must confess that in a very great measure his cases of aggravated hysteria were amongst hospital patients, and he must add that he had not succeeded as well as he could have wished in his attempt to treat them by that method; the fact being, that the nurses are capable of being appealed to by the patient. In his opinion, there were, generally speaking, three gross forms of hysteria—(1) that entirely independent of the will; (2) that under the control of the will; and (3) the more or less malingering form. Dr. Drummond gave instances in illustration of his views.

Dr. Ransome (Manchester) remarked that, in several cases of hysteria associated with incipient phthisis, Dr. Weir Mitchell's plan of treatment had not only cured the hysteria, but had also been of great service in improving the condition of the lungs.

Dr. Henry Bennet (Weybridge) remarked that the interest connected with Dr. Playfair's paper had attracted many members from the adjoining section, the Obstetrical. In the absence of any other volunteer, he felt called upon to break a lance in favor of the old Hippocratic doctrine, which referred hysteria in many cases, not in all, to the uterine organs, especially in young females. He prided himself in having been the first to introduce to the profession, many years ago, a fact now generally acknowledged—viz., that uterine disease, inflammatory as well as others, was not unfrequently found in virgins, young or otherwise, and was often the real cause of the worst forms of hysteria. Owing to his having brought these facts before the profession when he was in full practice, he had seen very many cases of this kind, in consultation or otherwise. He had usually cured them merely by getting at the disease and removing it, without any special treatment of any other kind. He fully admitted that aggravated hysteria existed without uterine disease, or might continue to exist even when the originating uterine disease had been cured, and that it might require other than surgical treatment. Dr. Mitchell had cured one of his own cases, that of a young American lady, who remained all but bedridden after the removal of uterine disease. This fact, however, is not a reason for ignoring the practical facts to which he alluded, which the experience of a long clinical career had proved to be true. He constantly read in the writings of pure physicians (not gynæcologists), treating of aggravated hysteria, cases which to him were, most undeniably, forms of uterine disease, although the writers did not recognize the fact, for want of gynæcological knowledge.

Mr. Ross Jordan (Birmingham) said he thought very highly of the views so ably and forcibly expressed by Dr. Playfair. From the experience of one or two cases, imperfectly carried out, he thought the plan of treatment of the greatest advantage. He wished more particularly to say a word or two on some of the opinions expressed by one of the speakers (Mr. De Berdt Hovell), as to hysteria not being the result of uterine disease. He thought many of the cases had such origin; and that physicians, more particularly those who professed a special knowledge of the nervous system, took a heavy responsibility on themselves, when they systematically ignored the existence of uterine and ovarian mischief in its earlier stages. No doubt, many cases of aggravated hysteria may be found without a trace of uterine disease, simply because the rest of chronic invalidism has allowed such disease to get well. He had found hysteria much more common in slight than in severe uterine or ovarian disease. He wished to say that, if such cases were properly treated, in their earlier stages, there would not be so many chronic invalids, nor so much profound hysteria, Dr. Leech (Manchester) called attention to two cases of neurasthenia in men, which had recently come under his notice. He noted that, in both, relapses had occurred after apparent recovery; and he asked whether Dr. Playfair had noticed relapses in the cases which had been under his care.

Dr. Mahomed (London) remarked on the frequency of relapse in all cases of hysteria; and asked whether Dr. Playfair had seen relapses in his own cases, or knew of them in those of Dr. Weir Mitchell. He wanted to know what had been the experience of others in the history of these cases, and their final termination, before the introduction of this treatment. He believed that the secret of the whole matter was the thoroughness of the treatment, and the complete confidence in its success. He believed that we much needed the same thoroughness in the treatment of other cases; and this could only be obtained by recognizing the truth of the plan of the treatment which it was proposed to employ.

Dr. Playfair said, in answer to the President (Dr. Clifford Allbutt), that he had not sufficient experience of the effect of the treatment in men, although doubtless in suitable cases it might answer well. In other diseases it certainly did good—as in chorea. He had himself recently cured a most intense case of chorea, of nine year's duration, by this means, which had previously resisted every treatment. He had little to say in answer to the other speeches, except that the explanation of the enormous quantities of food taken was, beyond question, the excessive tissue-waste produced by massage. The waste required increased fuel, and in the process of assimilation the patient recovered. It was a strictly physiological process, based on improving the nutrition of the patient. He looked upon real organic disease as a positive contraindication. As to the question of relapse, all he could say was that hitherto none of his cases had relapsed; although, as a matter of common sense, every now and again these interesting neurotic women must be expected to go wrong again.

The Inheritance of Bright's Disease of the Kidney.—I desire to narrate a singular experience of family inheritance illustrating the natural history of Bright's disease of the kidney extending through *three* generations. Having attended many members of the family for a long time I am able to relate the course and termination of the disease in some, and the very slow progress in others still living. To know the natural history of Bright's disease is to have knowledge upon which to found an encouraging prognosis. To keep hope before the patient is often of vital consequence. The inheritance of disease has a deep interest for the medical profession and for society in general. It brings in many subjects of importance relating to intermarriage, bringing-up of children, life insurance, etc.[1]

The accurate knowledge of family history is the basis from which to deduce the laws of inheritancy.

"The world is beginning to perceive that the life of each individual is in some sense a prolongation of his ancestry. The life histories of our relatives are especially able to forewarn and to encourage us, for they are prophetic of our own futures."—*Fortnightly Review*, January 1882, p. 31. Francis Galton.

Case I. Mrs. ——, aged 60, one of a family of most temperate habits, died in 1860 of Bright's disease of the kidneys which had existed for many years. It first showed itself after one of her confinements; most of the children born after that confinement became the subjects of kidney disease. All or most born before that confinement have not suffered from it. She had twelve children, of these *seven died of kidney disease*. Of her remaining five children two have for many years been suffering from the same disease. Of her grandchildren, *two at least* are subjects of kidney disease. Two of her brothers died of Bright's disease in early manhood. A few days before her death angina pectoris came on. (She died before my attendance upon the family commenced.)

Case II. G., the ninth child of No. I., died in 1882, aged 34. I attended him for some years. He was a tall, strong-looking man of a powerful muscular build, to ordinary observers a picture of health and strength, pulse strong and regular, breathing extremely good, heart sounds natural. He lived a most healthy life, took much open air exercise, an abundance of good food and milk, but abstained altogether or nearly so from alcoholic fluids. He disliked much special attention to his health, but used Turkish baths frequently. His urine was usually transparent, pale, contained a moderate quantity of albumen (varying from one-twelfth to one-eighth of the volume in the test-tube after boiling and the addition of nitric acid); under the microscope a few granular casts, frequently also many crystals of oxalate of lime. In the course of five years the specific gravity gradually fell from 1015 to 1008; the "anæmia" of Bright's disease came on, with a strong urinous smell of the breath, anorexia, nausea, cramps. To this state the most marked relief was afforded by dilute nitric acid, ten drops in a wineglassful of water, two or three times a day. Again and again all the uræmic symptoms were relieved by a few weeks' use of it. He continued to lead a most active life, never sparing himself; the centre of a large business and of much benevolent work. In the early summer of 1872 he visited Malvern, and became suddenly ill. This proved to be scarlatina. Violent hæmaturia came on and death followed in four days with symptoms of uræmia. I visited him at Malvern in consultation with Dr. Johnson, who attended him closely during the scarlatina, and made a post-mortem examination. "The kidneys were found to be much smaller than natural, each weighing 3¾ oz. The surface was irregular, several cysts projected from various parts of the cortex, the largest was nearly half an inch in diameter, and was filled with serous fluid. On section the cortex was found to be much reduced in thickness, being not more than a quarter of an inch at the thickest part. Under the microscope, in many parts of the pyramids and cortex numbers of tubes were to be seen completely blocked up with crystalline masses of oxalate of lime. In some places distinct dumb bells were found. In many sections more than twenty such collections of crystals were to be seen in the field of the microscope at one time. These collections obstructed the tubes. In some instances the obstruction thus caused had led to gradual wasting of the secreting structure, to the formation of cysts in one part of the tube, and wasting of the rest. Some of the Malpighian bodies were three times the size of the healthy, others had wasted and were much smaller than natural. Tubes both in the cortical and medullary portions of the kidney varied very much in diameter, some were three or four times the diameter of the tubes in health, others were much less than half the proper size, while not a few appeared to have altogether wasted. The epithelium in some tubes was scarcely altered, but in others it was represented only by small masses of about the size of pus corpuscles." Whether the pathological changes described were due simply to the impaction of the crystalline matter referred to, or the latter but a consequence of previous structural change in the kidney, is open to discussion; probably the kidney had undergone important morbid change before the deposition of crystalline matter, but it is certain that the obstruction of so large a number of uriniferous tubes must have occasioned serious structural change.

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[1] The New York Life Assurance Reports show that one in eleven apparently healthy applicants for life insurance have albuminuria.

Case III. C., the tenth child of No. 1, died in 1873, aged 30. He, like his brother, led a busy, active life. The disease of the kidneys had existed about ten years. I attended him during four years. The kidney anæmia all this time was well marked, a translucent, waxy-looking whiteness of complexion. His pulse usually quick, irritable, and weak. Heart sounds feeble. The urine was abundant, slightly acid, extremely pale and limpid, almost like spring water. It contained a moderate quantity of albumen; under the microscope, an abundance of oxalates, and a few granular casts, also narrow casts impacted with uric acid and oxalate of lime crystals. As the uræmia increased, cramps came on with sickness, headache, and urinous smell of breath. In this state he derived the same benefit as his brother, G., from the dilute nitric acid, but the good effects were more transient, as the kidney disease was evidently in a more advanced stage. The specific gravity of the urine slowly fell to 1004, with prostration, failing strength and sickness. As a last resource he went to Egypt in the winter of 1873. There he recovered a good deal, gained strength, and the uræmic symptoms lessened. Contrary to my advice, he returned by Damascus, Constantinople, and Vienna. At Damascus he was struck with low malarial fever; at Constantinople got a chill from the east wind. He reached England dying. Uræmia with coma came on forty-eight hours after arrival. He died, like his brother, of an acute disease supervening on the chronic—a good illustration of the need for care in the management of Bright's disease. Had he returned from Egypt, as I urged him, by the south (Malta, Naples, Marseilles), he might have lived for another year or two. On post-mortem examination "the kidneys were much smaller than natural, one weighing only two ounces, the other only two and a half ounces, capsules much thickened. The cortex was much reduced in thickness, being scarcely more than an eighth of an inch. The secreting structure was very much altered. Many of the Malpighian bodies shrunken and wasted. The uriniferous tubes exhibited every degree of wasting, a few were larger than natural, and dilated at internals, so as to form small cysts. The remarkable character described in the kidneys of No. II., G., were also observed in this case. Numbers of the tubes, both in the cortex and in the pyramids, were completely choked with collections of crystals, principally oxalate of lime. The tubes had completely wasted in some instances, leaving the crystals imbedded in connective tissue; as many as twelve of these collections were counted in one field of the microscope (quarter-inch object glass.) The arteries in every part of the kidneys were thickened, and in some of the smaller arteries and Malpighian bodies amyloid degeneration had occurred."

Case IV. E., the sixth child of No. I., died in 1880, aged 46. This is the most interesting of the group. I attended him for seventeen years, during which time he had all the signs and symptoms of advanced granular degeneration of the kidneys. When he came to me in 1863 he was thin, pale-looking, suffering from aching pains in the loins, neuralgic headaches, cramps in the legs, slight œdema of the lower extremities. The kidney disease had then existed for some years, and was taking an unfavorable turn. Pulse generally hard and irritable, varying in frequency from 75 to 85. Heart sounds natural, occasionally complained of palpitation, yet he could climb mountains with ease. The urine was abundant, clear, highly acid; specific gravity varied from 1020 to 1018. It contained a large quantity of albumen, and frequently granular casts. Like his brothers he led an active life, fully occupied in business, but, unlike them, he was easily persuaded to take extreme care of his health—took long holidays, wore Shetland wool underclothing, kept up steady open air exercise. As late as 1876 he was able to walk twenty-five miles in one day in the Maritime Alps, out from 6 a.m. to 4 p.m. without being more fatigued than one in ordinary health. He took care to encourage free perspiration by exercise, and to return home in a glow, so as to avoid chill when fatigued. He often wintered in the south with great benefit; the winter before last at Cannes, where he did well. In an evil hour he was persuaded to take a voyage to Alexandria in March, contracted dysentery there, which nearly cost him his life. He returned from Egypt much broken down in health, pale-looking and anæmic, with increased œdema of the lower extremities, breathlessness on exertion. He passed a bad autumn (1879) in England. The urine became turbid, the specific gravity fell to 1010, the quantity of albumen increased. Under the microscope many casts, granular, fatty, and hyaline, were seen. In December, 1879, severe pain in the head came on from chill, followed by carbuncles on the face, and blindness of the right eye from œdema of the retina. The specific gravity of the urine rose to 1017 as sugar appeared in it. For the last time he went southwards (to Cannes) in February, 1880; rallied a good deal. He returned home-wards in June, crossed the St. Gothard on an *outside seat* of the carriage and caught cold; dropsy of the chest came on at Lucerne, where he died. There was no post-mortem examination. For seventeen years he lived a life of much wise care in the management of health, fully occupied in business, kept to the abundant but not exclusive use of milk, taking little or no alcohol. In every case of intercurrent disease he quickly sought and carefully followed treatment. On the slightest cold or chill he took a few lamp baths, omitting them when in his usual health, being then satisfied with morning tepid or cold sponging baths. He trusted for perspiration more to open air exercise than to baths. When suffering from nausea, headache, with neuralgic pains over the eyebrows, cramps in the extremities, disturbing sleep at night, he derived much benefit from a few weeks' course of three grains of disulphide of quinine three times a day. He often suffered from diarrhœa, with pale evacuations, alternating with constipation, relieved by perchloride of mercury, one-twentieth of a grain three times a day, an hour or two after meals, and a large tumblerful of Vichy water in the early morning. At times, when he suffered from aching pains in the loins, with irritability of the bladder, passing an abundance of pale urine, highly acid, and of low specific gravity, he derived marked relief from ol. terebinth, five minims in half a wine-glassful of water three times a day.

Case V., aged 48, the fourth child of No. 1, suffered from Bright's disease for twelve years, during most of which time I attended her. The urine was generally pale, opalescent, moderately acid, specific gravity 1014, sometimes higher for a time, occasionally up to 1020. It contained much albumen (one-twelfth to one-eighth), and under the microscope casts granular and hyaline. She inherited her mother's heart condition as well as the kidney disease, often suffered from faintness and palpitation on excitement or exertion, with physical signs of hypertrophy and dilatation of the left ventricle. The heart sounds were weak and indistinct. Although the specific gravity of the urine fell as low as 1012 her health continued good till 1879, when the change of life occurred. An attack of headache then came on with confusion of mind. This was followed by aphasia and left hemiplegia. She recovered after a few weeks of careful treatment, at first by mustard foot-baths and bromide of ammonium, and subsequently by phosphate of strychnia (one grain of strychnia in half an ounce of dilute phosphoric acid, eight drops in water three times a day.) With this she recovered muscular and nervous strength, the numbness and paralytic weakness of limbs passed off. She gained strength and appetite from the phosphate of strychnia, whilst even a small dose (half a grain) of quinia disulph disturbed, causing headache and excitability. She spent the winter of 1880 at Bournemouth, leading a most useful, active life, and taking much carriage exercise. As the spring of 1881 advanced she became feebler, the specific gravity of the urine fell to 1010, and she had another slight paralytic attack. Breathlessness came on in June, with palpitation and pain at præcordia, rapid weak action of the heart, pulse occasionally up to 150, sudden attacks of vomiting, and pricking in the hands and arms. The urine became scanty, turbid, and putrid, the albumen increased to one-fourth the volume in the test-tube (after boiling and the addition of nitric acid). Under the microscope an abundance of broken down casts and granular matter was seen. Articulation became more and more difficult. Coma, with twitching of the muscles of the legs came on, and death followed in thirty-six hours with total suppression of urine.

Of her five children *two* are the subjects of Bright's disease.

Case VI. J., aged 19, grandson of No. I., son of No. V., has had kidney disease for ten years. It came on first after scarlatina, and has progressed slowly. The attack of scarlatina was a slight one; he was kept in bed for a fortnight, but confined to the house for a month. He had no baths till after he was first brought to me in 1872. The kidney disease showed itself within the month. He is strong-looking, but has the suspicious pallor of kidney disease, and is subject to frequent attacks of ordinary catarrh with aggravation of the kidney condition. His urine is usually pale, clear, fully acid, specific gravity varies from 1010 to 1018. It generally contains a good deal of albumen, from one-tenth to one-sixth, occasionally a few casts, granular or hyaline, often lithic acid crystals. He derives much benefit from the use of lamp baths and of perchloride of iron. For two months he took oil of sandal wood (two of Savaresse's capsules night and morning) without any perceptible effect on the albuminuria. For two months also I put him on one grain of indigo, three times a day, without any beneficial results. For three years past he has taken at least two quarts of milk daily. The approach of winter has manifestly so ill an effect upon him that he winters in the south, at Cimiez near Nice, or at Cannes, or on the Nile. This winter he has gone for a more complete change to the Darling Downs in Queensland.

Case VII. E., aged 22, grandchild of No. I., daughter of No. V., has suffered from albuminuria for about nine years. It was discovered first after scarlatina, which she, like her brother, had very mildly. She was kept in bed only three or four days, but confined to the house for a month. Warm baths were used frequently. The disease showed itself in her case within the month. It was becoming chronic when she first came under my care some months afterwards. She is a tall, strong-looking girl, of a robust frame, of good color, yet the urine contains much albumen, varying from one-twentieth to one-eighth of its volume, average about one-twelfth. It is clear, full-colored, specific gravity varies from 1014 to 1020. Under the microscope there are generally lithic acid crystals, occasionally granular or hyaline casts. Although losing so much albumen, her health and strength remain to all appearance perfect, except that she suffers from languor and disinclination for exertion. For ten weeks lately she has taken Bethesda water, about two tumblerfuls each day, without any perceptibly good results; the urine at the end of the ten week's course still containing one-seventh albumen, specific gravity 1019, differing little, if at all, from the examination made before commencing the Bethesda water.

The treatment of disease of the kidney labors under a disadvantage compared with that of pulmonary disease. In the latter, cough, expectoration, breathlessness, wasting, night sweats, easily convince the patient and friends that he is really ill, and that the doctor's care and cautions are not unnecessary or uncalled-fôr. In kidney disease, on the other hand, there are few objective symptoms, as the patient does not lose flesh or muscular power, seldom has pain in the back or difficulty in urination; he will often protest "there is nothing wrong with my kidneys, for I have no pain in my back." Thus the doctor has much difficulty to get the patient or his friends to take sufficient care or to submit to treatment. The nausea of the latter stages of Bright's disease helps the delusion—"Oh, I am so sick, it must be my liver that is wrong, not my kidneys." It is only when the uræmic symptoms come on that the patient can be induced to take care. They often try to weaken the precautions laid down for them. "Oh, the albumen; does it not simply arise from waste of food?"

In chronic disease of the kidney the treatment must be to a great extent hygienic and dietetic. It acts like an impetus towards health in such cases for the doctor, after prescribing for a month or two's course of medicinal treatment, to dismiss the patient for a season with a cheery word, "Medicine has done its work, now lay it aside for a time, and trust to wise management of your habits of life, diet, exercise, clothing," with a distinct piece of advice concerning each; yet the physician must be on the alert not to repeat vague generalities, but to give a sharply-defined course or plan of general management.

In the treatment of granular degeneration of kidneys, the gout kidney *par excellence*, I can speak with much confidence of the good effects of nitric acid. In many phases of the disease, especially when the urine is very pale, of low specific gravity, and highly acid, with nausea, anorexia, furred tongue, it suits when iron and quinine disagree. It exerts a specific action on the urine, causing the turbid to become clear, and at times it does the opposite, causing the pale clear urine to become turbid and dark-colored. It also relieves the gout pains in the joints incidental to the disease. The perchloride of iron is of infinite use in the treatment of Bright's disease. In the latter stage of true granular degeneration it often causes headache, and increases the nausea; then the liquor ferri pernitratis Ph. B. suits better, the free nitric acid in it causing the iron to be more easily assimilated.

The use of milk in acute and sub-acute kidney disease has the best effect, but one gets disappointed at the negative results in old long standing cases; its persistent use causing little or no improvement in the condition of the urine. J., case No. VI., drank two quarts of milk daily for six months without perceptible effect on the chemical or microscopical character of the urine.

After twenty-five years experience of the use of all kinds of baths in the treatment of kidney disease, I have found lamp baths excel all others in real efficacy. The spirit-lamp bath without water has a better effect than the vapor of water boiling over the spirit-lamp, which most patients complain of as being more relaxing and exhausting than the spirit-lamp alone. Used at bedtime for fifteen or twenty minutes three or four times a week, the effect is all we can desire. The gentle moisture kept up in bed all night after the bath does much more good than the Turkish bath, the good effect of which is neutralized by exposure to the cold air afterwards. When the patient lives in the establishment so as to go straight to bed after the Turkish bath, its use is invaluable. Under such conditions it may be taken even twice a day with advantage.

Counter-irritation plays a most important part in the management of chronic Bright's disease. Its effects are especially good in all intercurrent attacks. When from a chill, or over-fatigue, or change of climate, the urine becomes disturbed in character, either cloudy or very limpid, mustard plasters over the loins have a most perceptibly good effect, or compresses of spongio-piline sprinkled with a few drops of oil of turpentine. In subacute congestion, a small blister over the kidneys has a good effect as a counter-irritant. It probably has by absorption also a specific action in clearing the débris from the tubuli uriniferi.

Open-air exercise is an essential element in the treatment of chronic disease of the kidneys. It is however of vital consequence to the subjects of that disease to avoid chill when heated by exercise, returning home quickly to change the moist underclothing.

In selecting a winter climate suitable for a case of kidney disease, dryness and equability are the essential requirements. Heat is desirable, but not so essential as freedom from sudden changes. Algiers suits well, Egypt still better. In Europe, Mentone and Cannes are about equal. It is essential too to keep the patient south of the Alps till the end of June. J., Case No. IV., passed last winter in Egypt with manifest advantage, left it because of heat at the end of April, returned through Italy in May. When in Egypt the albumen had lessened, but soon after his arrival in northern latitudes slight hæmaturia came on with scanty secretion of dark urine containing one-fourth of albumen, loss of appetite, lassitude, backache. Thus in a few weeks he lost all the good effects of the winter in Egypt.

The consumptive with lung disease, after a winter in the south, gains much from the bracing air of Scotland in summer. This proves a most treacherous plan for the subject of kidney disease, who can find a more suitable summer climate in the dry, sunny, sheltered parts of Switzerland.

When there is an inherited tendency to kidney disease, the treatment of scarlatina is of great consequence, as it so often proves the exciting cause of that disease. The special care needed is strictly to confine the patient to bed for at least a week or ten days, the free use of diluents, water or milk, the avoidance of much animal food, and the free use of vegetables. After the eruption has disappeared, the use of warm water baths every night for three or four weeks, warm woolen underclothing in the day, and at night to sleep between the blankets should be advised. The rubbing with carbolic oil should be especially avoided, as although it lessens the intensity of infection, yet I have known it to act injuriously on the kidneys, in fact setting up the albuminuria.—Joseph Kidd, M.D,, in *The Practitioner.*

PATHOLOGY IN THERAPEUTICS.—Being an address delivered at the opening of the section of pathology, at the annual meeting of the British Medical Association, in Worcester, August, 1882, by J. Hughlings Jackson, M.D., F. R. C. S., and published in the *British Medical Journal.*

Pathology is the basis of every rational system of therapeutics. That, possibly, the greater part of our effectual treatment is at present empirical I would not deny, but that therapeutics will become rational is what we all hope. To those who are quietly and laboriously working at what may, superficially looked on, seem to be obscure pathological problems, steady advances in diagnosis and rational therapeutics will be chifly owing. It is evident that, for rational therapeutics, we must know what there is to be treated. No man in our profession deserves greater credit than the pathologist—including, of course, the clinical pathologist, and never forgetting the medical officer of health. The medical officer of health is the pathologist of the social organism, and deserves the highest social recognition. Speaking more narrowly, tacitly assuming the obvious qualifications, the best practitioner, perhaps not the most confident one, is he who has carefully made most post mortem examinations. I do not mean him who stops here, who stops in a stage which is rather to be called one of morbid anatomy than of pathology. But a man must begin here—must begin here to learn for himself, at any rate. The best knowledge for practice is what a man gets for himself. The only way of being thoroughly practical is to face the facts, to get verification or disproof of our opinions. A post mortem examination never flatters us. If, for an example, we diagnose tumor of the cerebellum during the life of a patient, we may, post mortem, find one in the anterior cerebral lobe. Such a rap on the knuckles is good for us. It makes us less confident, and teaches us to be more careful. A post mortem examination may tell us that we have been treating a patient with useless, perhaps with injurious, drugs.

Every medical man has some system of pathology. But there are systems and systems. Besides scientific pathology there is a crude pathology, and there is, unfortunately, a metaphysical pathology. We have long heard that old maid's husbands are always well behaved, and on the same principle the pathology of those who do not make post mortem examinations is often confident and definite. But the really important thing is to be accurate and precise, otherwise we confidently organize error in definite formula. A man's pathology may be too definite in the wrong way, because he has not worked for himself at pathology. It may be only superficially and verbally definite and really crude. He who has made many post mortem examinations is not so metaphysical in his explanations of the pathology of some of those cases of disease of which there is no known morbid anatomy. In looking carefully for himself into the coarsely concrete, a realistic habit of mind is produced in a person, and thus he avoids verbal explanations of those most difficult cases which are without known morbid anatomy—of those, for example, commonly called the Neuroses. To my young hearers I say, always endeavor to obtain post mortem examination. Unless you are in the habit of facing the facts, your diagnosis will be untrustworthy, and much of your therapeutic treatment indefinite.

If a man do not learn pathology when he is young, he is not likely to learn it properly later. Unless he have seen much for himself, he will not practically realize the researches of others, nor be able to judge them. I would urge on young medical men the formation of clubs for making post mortem examination. Let me mention a slender personal experience. Many years ago, at York, a club of this sort was formed. It had no other organization than the agreement that each member should obtain an examination whenever possible, and ask the other members to attend. The history was stated by the person who, so to speak, owned the case, and then each of us saw what there was to be seen, and notes were taken. It this way it is not difficult to get a large experience of direct value for practice. This very simple method has, I suggest, some advantages over reading papers and more elaborate demonstrations, although these are necessary for organizations of knowledge. Each learns something, however little, at first hand. And since the whole body, as well as the organ principally diseased, is searched through, it is in some ways very much more teaching than the exhibition of interesting specimens of disease of isolated parts, valuable as that is. Some of the cases we had to deal with were "coroner's cases"; some of them were cases of sudden or of rapid death.[1] As early as possible in our career we should familiarize ourselves with cases of acute disease; with emergency cases—with cases that will not wait. In some of those we saw, the history was, from the circumstances, imperfect. I do not know that this, was a bad thing, for we are called on to give legal evidence in such cases. To take one example: we may be asked to say what caused the death of a prostitute who, when last seen alive, was drunk, and who was found dead in a gutter with a bruise on the head, and about whom there was a doubtful history of a fit. Reasonable or not reasonable, we have to go into the witness-box and say whether we think a patient died of drink, of poison, or of disease, or that we do not know of which he died. In some of the cases we dealt with, the patients, if I may use the word, were seen when dead. When called to a dead person the ordinary medical difficulties are over, but very often great responsibilities of other kinds begin.

Pathology is, of course, now well taught in hospitals. But I am urging that a man should go on learning pathology for himself—go on being a student as long as possible. Most of the work on pathology will be done by those who have large and special opportunities. Scientifically I am a democrat and should like every one to be a pathologist for himself, so far as possible. Many a man learns quickly, and is very zealous when a student; he is, apparently, a man of promise, and then stops short and ceases to improve.

Every man should be original. He may make no discoveries; that is to a great extent a matter of chance. I mean that he should think for himself. If he do not himself make post mortem examinations, he will have no trustworthy materials for such thinking on cases of living people. It is one thing to possess knowledge, and quite another thing to be possessed by that of other people. Besides, in private practice are seen some kinds of cases we do not sufficiently often see in hospitals. Some of the most useful cases I have seen have been in the private practice of my friends, although I have had a large field for investigation in hospital.

Besides, in private practice, work is done under responsibility. Whilst studying at schools, this excellent dicipline is not nearly so great. There is nothing like responsibility for sharpening the wits; and post mortem examinations will prevent our being too sharp. Coroner's cases are important, not only for the sake of knowledge, but for discipline. A man has to bring his thoughts quickly to a focus. A collection of good reports on these cases would be very valuable for many practical purposes.

Many post mortem examinations are necessary for passing through a kind of inversion of our knowledge—from the systematic to the clinical. Systematic medicine assumes the post mortem examination, and goes back to the symptoms; and looks towards the morbid anatomy and pathology. The latter is, of course, indefinitely the more difficult.

A man who has learned properly the symptoms of cerebral hemorrhage, those of uræmia, those of epilepsy, etc., finds the problem turned upside down when he comes to the bedside. These several kinds of cases look very much alike at the bedside. The question at the bedside is not, such as, "Give me the symptoms of cerebral hemorrhage, of uræmia, etc. That is going from the necropsy back to the symptoms. The question at the bedside is, "Here is a man in a fit—what is the matter with him?" That is looking from the symptoms to or towards the necropsy. No one is ready to answer the latter question even plausibly, unless he have seen or made many post mortem examinations. For at the bedside, a medical man has to be original, has to think for himself.

The process of inversion is not altogether pleasant. Indeed, a man who begins with a good systematic knowledge will probably find himself confused during the process of inversion. When, after looking from the necropsy back to the patient, he begins to look from the patient to the necropsy, and sees, for example, a patient who died "with all the symptoms of cerebral hemorrhage," he is taken aback when at the post mortem examination he finds nothing. Let him persevere, and all will come right in time, or be much clearer.

Nevertheless, I would grant that, if a man wish to to be thoroughly comfortable in his diagnosis, he should never make a post mortem examination.

A practitioner must not be a pathalogist only, although, unless he be a pathologist he cannot be a good practitioner. Division of labor, strictly or figuratively, is the law of everything whatever. Some of us work chiefly at physiology, some of us at pathology, and some of us at clinical medicine. But to be a good practitioner, a man must know much of all three, and most of us now-a-days carry on the three lines of investigation. Every case is a departure from healthy states, and no one is fitted to begin the scientific study of diseased persons unless he know much of the anatomy and physiology of healthy people. To a great extent, diseases are metaphorically speaking, experiments, anatomical and physiological, on the human body. If it be not profane to say so, I would suggest that anatomists and physiologists might have more recourse to these "experiments." Charcot, in doing the best kind of pathological work, has, I should suppose, done as much for the anatomy and physiology of the spinal cord as any one living. He is clinical all round. The three things make up the clinical problem. I do not mean that we have simply to draw incidentally on our anatomical and physiological knowledge when we see a patient, but that anatomy and physiology are integral parts of every case we have to do with.

When we stand at the bedside of a patient, when we come close to our clinical work, there is before us an anatomical, a physiological and a pathological problem. A great part of our clinical knowledge of cases is really nothing more than anatomical and physiological knowledge. The word disease is too vague; it is used in three senses, each of which should be individualized, Since I am about to speak of cases of disease, it is not needful to add, were it correct to do so, the adjective morbid to the terms anatomy and physiology. I can best illustrate by diseases of the nervous system.

In each case: 1. There is alteration of structure of some organ; here is an anatomical problem. 2. There is alteration in the proper functional activity of that organ; here is a physiological problem. 3. There is a change in nutrition of tissues of that organ; here is a pathological problem. In many cases, we cannot carry out this threefold scheme. But we should attempt it in every one, in order that we may realize vividly what it is we do not know. There is a wider pathology than abnormal nutritive changes in one organ. There is not only the organ diseased or most diseased; there is also the rest of the patient to whom that organ belongs, or did belong. I say, "or did belong," because sometimes part of an organ is annihilated. No clinically minded man ever forgets the wider pathology. We no longer believe that a patient is "attacked by disease," although we still use that expression, the metaphysic having long since died out of it. It would be a better metaphor to say that he breeds the local disease himself, or that it has grown out of the whole of him; or, better still to say, of many cases, that a certain part of a universally unsound system has fallen to pieces. So we examine our patient all over; we try to get to know as much as we can of the pathology of all important organs of the living patient.

Even yet our pathology is not wide enough. We must not consider the patient himself as more than a detached unit of his family; we have to note the tendencies he inherits, as well as to examine him to see how they are particularly evidenced in one branch or twig of a family tree.

If we take a case of loss of speech, the threefold distinction for clinical investigation can be easily illustrated. To locate the lesion is nothing other than an anatomical conclusion. To ascertain that it has destroyed speech, that it has left the patient capable of understanding what is said to him, etc., is a physiological (and psychological) investigation. Pathology is concerned only with the nature of the lesion and with its mode of production. Nearly all that has been written on aphasia is anatomical, physiological, and psychological disquisition.

To take a still more simple case in illustration: A man has hemiplegia. To think of the case as one of paralysis only, is like the habit of thought of old-fashioned zoologists, who spoke of animals as if they had nothing particular inside them, or, as Forbes said, as if they were skins stuffed with straw. We have three very different things to do, each easily done in most cases of this kind. From noting the region affected—face, tongue, arm, leg, etc.—we conclude that there is a lesion of the opposite corpus striatum. Now, this is only anatomical knowledge. Speaking figuratively, it is only an experiment made by disease on an organ. To locate disease is an admirable thing; but localization is not the most important clinical thing. If we stop in this stage, we know nothing of any value for rational treatment of the patient; we may have some good empirical expedients. Next, observing that the region mentioned is paralyzed, we conclude that there is loss of function of some nerve-elements—probably destruction of them This—physiology—also is a knowledge by itself, of no avail for therapeutical purposes in such a case. But, lastly, by examining our patient—for now we have done for the time with his paralysis—and from certain empirical evidence, not needing to be stated now, we conclude that loss of function of the organ is caused by cerebral hemorrhage, that a clot has smashed up part of the corpus striatum. This is not enough. There is yet the wider pathology. A patient looks on this illness as an accident; the pathologist never takes that view of it. We often get to know with certainty that the local pathological change is but a local manifestation of a slowly progressing wide state of degeneration; that the man is rotten all over, and that he has one day broken down suddenly in a certain place; that he has chronic Bright's disease, atheromatous arteries, and an hypertrophied left ventricle. By considering these things and their interaction, we see that he has long been preparing for what seems to him to be only an accident. I submit that the process by which, in such a pathological state, he comes to have the local lesion—why an artery bursts—is in chief part a physiological problem; there is a physiology of the organism made up of bad materials as well as of the healthy organism. Further widening our pathological investigation, we may find that the patient is a twig of a gouty family tree.

Now the pathology of lesions is the basis for treatment. It may be said that we can do nothing for the lesion in the case instanced. I grant that. The more we face the facts, that nerve-fibres are smashed up, and that a mass of blood is lying abroad in the débris, the less hopeful we feel. But the knowledge of what we cannot do is a gain for therapeutics. We do not try to do the impossible. We have much to do if we consider the patient's wider pathology. We take care of what is left of him, and do not treat what is lost of him. We must be realistic. A part of the patient is annihilated, and to treat the local lesion is to treat a hole in the nervous system. If the clot be a very small one, the patient rapidly gets well, and then, obviously, the thing of real importance is to take stock of his general condition. In a case of slight and transient hemiplegia it is good work to localise the lesion, but it is far better to examine the patient's heart, arteries, and urine. A man who has one day's trifling incapacity in speech, or even only a trifling bleeding at the nose, is, if he have any chronic Bright's disease too, in a worse case—is less likely to live, I mean—than a patient completely and permanently hemiplegic from embolism. Although I have spoken of a patient's getting rid of the paralytic effects of small lesions, I did not say we cured him. It is perfectly certain that a person recovers from hemiplegia, although the local destruction is not, or is but partially, repaired. Why recovery, or what anyone calls recovery, occurs in these cases, is an anatomico-physiological question.

Once more I urge that anatomy and physiology are integral parts of our clinical knowledge or directions of investigations of particular cases. In a large class of cases, where the functional affection is not negative, but the exact opposite—morbid exaltation of function—it is imperative to keep the physiology of the cases distinct from their pathology, or we shall not see what the really important medical problems are. If we take the case of epilepsy, we see that the distinction is of practical moment. A man is subject to epileptic fits. He is apparently well; then suddenly he is convulsed all over; next day he is apparently well again. Now, in this case, we cannot yet carry out the threefold method, but we should attempt it. Our anatomical knowledge is defective; we have not yet got to know the organ in fault—the particular part, I mean. Thanks especially to Hitzig and Ferrier, we have got to know much of value as to localization in epileptiform seizures; but, as to epilepsy, nothing at all certain. But we feel sure of our physiology—that nerve-tissue somewhere is highly unstable, and that it occasionally liberates much energy, or, in other words, discharges excessively. The excessive movement outside is a certain sign of an excessive nervous discharge inside. And since in nearly every patient the fits are always the same in kind, however different in degree, we infer that a group of cells have become permanently abnormal, highly unstable, or, metaphorically speaking, "explosive." What I wish to urge is, that this is only an abnormal physiological state, only a great excess of a normal physiological condition. If a healthy man move a limb, there is a liberation of energy by some parts of his nervous system; and if he be convulsed all over, there is only a great exaggeration of such a normal process. To repeat, our anatomical knowledge of epilepsy is only vaguely inferential. Our pathological information is *nil*. We have only certainty as to the physiological process. If we did know exactly the locality of the abnormal physiological condition, we should still have the pathology to find, but we should know where to search for it. The pathological question, the more important thing for medical men, is this: By what abnormality of nutrition is the local hyperphysiological condition produced? Facts as to the causes of epilepsy are wide of the mark unless they bear on this one point. Enumeration of the so-called causes of epilepsy is valuable, but the facts gathered are only some materials towards ascertaining the direct pathological causation. The man who finds out by what pathological process it comes to pass that certain parts of the nervous system become so physiologically abnormal that they occasially discharge excessively, will have done work which has not yet been done—the best medical work on epilepsy. Putting it somewhat too narrowly, the question is: "In what tissue of nervous organs does the abnormal nutritive change begin?" It is often assumed, without evidence, that it begins in nervous tissue.

The illustration from the case of hemiplegia was, as to its pathology, very roughly handled. We must carefully distinguish betwixt direct and indirect pathology. The lesion on which, so to speak, symptoms directly hang, is often very indirectly produced. The distinction betwixt direct and indirect pathology is necessary for precision in prognosis and in therapeutics.

There are very few nervous diseases in the sense that the essential elements of nervous organs, cells and fibres, go wrong primarily; in most cases they suffer indirectly. For precision in pathology, and, consequently, in therapeutics, we do not think of nervous organs as being made up solely of nervous elements. The ingredients of a nervous organ are not only nerve-cells and fibres, but also the subordinate elements, blood-vessels and connective tissue. And nearly all diseases of the nervous system of which there is a known morbid anatomy are diseases beginning in the subordinate elements; the nervous tissues are innocent but suffer. Most of them are not in a strict sense nervous diseases at all. Hence a study of pathology corrects specialism. To take but one case: the commonest nervous system is an arterial affair. Hemiplegia, in the vast majority of cases, is owing to blocking up of a diseased artery or to rupture of one. Nerve tissue is not here in fault, but suffers. It deliquesces (as in softening), or is smashed up by irruption of blood. A man's nerve tissue does not begin to soften; it is often locally starved because its arterial supply is cut off—it is boycotted. If a man can take care of his arteries, he need have but little fear of hemiplegia and apoplexy. His nervous tissues will take care of themselves. If we could conceive a man so badly educated and so curiously minded that he knew nervous symptoms well and nothing else, he would, if he made *post mortem* examinations, become de-specialised. He would find that he must start anew by studying cardiac, arterial, and renal diseases, syphilis, gout, rheumatism, and so forth. Out of that new study he would get a reasonable basis for prognosis, and for the care of his patients. In a word, he would find that the pathology of most nervous diseases was indirect, and would cease to take a merely nervous view of them.

The best illustration of indirectness of pathology is given by that most important clinical group of cases, syphilitic affections of the nervous system. Without denying that syphilis may primarily affect nerve-tissue, what I only feel sure of is, that it begins in subordinate tissues of nervous organs. The most nearly direct method of "attack", if I may use the word, is when a nerve trunk is the seat of syphilitic disease; but in other cases the process is indirect. Thus the commonest kind of so-called syphilitic hemiplegia depends directly on local softening of the brain, and indirectly on syphilis. This is an excellent illustration, showing how pathology gives precision to therapeutics. What a man has really to treat, if he is trying to cure a patient of syphilitic hemiplegia of this kind, is "local softening of the brain," not syphilis. The order is this: a man has a chancre; he gets rid of it and of subsequent secondary symptoms. Months or years later, when apparently well, except perhaps for headache, some of his cerebral arteries are becoming syphilitically diseased, and then one unfortunate day a branch is blocked up, and he becomes hemiplegic. A very little change happens that day, although the consequences are grave; but for that little seeming accident there has been long, slow, insidious preparation. The syphilis is slow, the thrombosis is rapid. This case for treatment, so far as the hemiplegia is concerned, is as certainly one of local softening of the brain as hemiplegia from ordinary embolism is. To call it syphilitic hemiplegia is all very well, but to think of the paralysis as being a direct result of syphilis is crude pathology.

Next as to therapeutics. Suppose the patient recovers rapidly under iodide of potassium, should we say we had cured him? There are the facts that he is syphilitic, that he took the iodide, and is now well again. No one denies this sequence. But, then, it so happens that there is another fact. It is quite certain that some hemiplegic patients get well without any drugs whatever. Whether a patients recovers from hemiplegia or not is a question of the size of the lesion. Those who make *post mortem* examinations do not invoke shrinking or disintegration of the plug, or re-establishment of collateral circulation, because they know that they find holes in the motor tracts of patients who have recovered from hemiplegia—the patients got well, were not cured. So that the hypothesis that the iodide cured the patient is not warranted by facts. Of course, we should treat the patient for syphilis, for besides more obvious reasons there is the strongest presumption that other cerebral arteries are diseased, and we may rid them of disease. If the paralysis be transitory, we go on treating the patient for syphilis, to prevent further paralysis. Everybody has a well-grounded faith in treatmant of syphilis—or of its recent effect at any rate. But I admit that if we could sweep away every vestige of syphilis by drugs, we should not, by so doing, cure the hemiplegia. It is easy to let ignorance stand to us for knowledge. We may believe we have cured our patient by drugs, because we do not know that hemiplegia will pass on without the use of any. But confidence is not always a sign of sagacity, but may result because we have not made numerous *post mortem* examinations. In the case instanced, there is a plug in the vessel, and consequent local softening. For drugs to do anything towards ridding the patient of his hemiplegia, they must help to get out the plug and to restore starved nerve tissue. Now, as a matter of fact, there is in these cases actual destruction of nerve tissues. If we could look into the man's head we should see that his brain is boycotted. We cannot get at it by drugs.

There is another kind of so-called syphilitic hemiplegia, essentially unlike the one already mentioned. The facts are that a man, the subject of syphilis, has pain in the head for weeks—the best time for anti-syphilitic treatment—significant of the formation of a cortial gumma. One day he has a convulsion, very often beginning unilaterally, and after it he is hemiplegic (sometimes monoplegic). The process by which the hemiplegic results from syphilis is a doubly indirect one. No one supposes that the gumma discharges; but that nerve-cells about it do. Thus, the stages are—(1) Formation of a gumma; next (2) induction of instability of nerve-cells, exactly as by a glioma, possibly by a sort of encephalitis; then (3) sudden excessive discharge; and (4) consequent hemiplegia.

Syphilitic paralysis of a cranial nerve, and the two kinds of syphilitic hemiplegia, are utterly different in the pathological changes on which the symptoms directly depend, although syphilis is respectively the direct, the indirect, and the doubly indirect cause of them.

There is a class of cases of nervous disease—the neuroses—of which the pathology is unknown; chorea, epilepsy, insanity, neuralgia. In these diseases, little or nothing definite has, according to most authorities, been found *post mortem;* and curiously, the fact that nothing is found, used to be considered proof that there was nothing to find. The statement that we do not know what there is in a particular disease, is sometimes taken to be equivalent to saying that there is nothing. We call the neuroses functional affections—a term, I submit, which should be kept for physiology. There can be no alteration of function without some material change. A man who does not make *post mortem* examinations may look on slight and transitory local paralysis as not depending on a material change, but if he did make such examinations, he would not hold that hypothesis. I repeat that we do not know the pathology of the neuroses. But now comes the curious point. We speak most confidently of the inheritance, interchangeability, and fundamental community of pathological character of those very diseases of which the ascertained morbid anatomy is nothing, or next to nothing. Thus there is assumed to be a community of nature betwixt epilepsy and insanity. It may be so. For my part, I have not heard of any facts tending to prove anything of the kind. The evidence adduced goes only to prove that many epileptics become insane. The neuroses are spoken of confidently as being nervous diseases in the sense that the pathological changes begin in nervous tissues. Where is the proof when we know nothing of their pathology? There is no proof. Again, pathology prevents our ideas on this subject being out of focus. Suppose a man has epilepsy, or paralysis, or chorea, and suppose that all his relations had the nervous symptom or disease, hemiplegia; is there any proof that he inherits a tendency to a nervous affection—that his epilepsy is owing to his nervous tissues *beginning* to go wrong? Not the smallest: because the hemiplegia is owing to arterial changes. If the family history in such a case tends to prove anything, it tends to show that the pathology of the patient's epilepsy is primarily arterial, and only secondarily nervous.

There is a metaphysical pathology. The cases are those on which we either do not obtain post mortem examinations, or find nothing post mortem. It is rather difficult to define metaphysics. Some people call psychology; some call anything very difficult and complex about mind and body metaphysics; some use it merely as a term of abuse. It is, I think, a great pity that some metaphysics is not taught to students before they enter the profession. This may seem a strange remark, but the reason for making it is not to urge that they should be metaphysical, but for the diametrically opposite reason that they should be less metaphysical. It is a mistake to suppose those who write books on metaphysics are the most metaphysical. They have, at any rate, the knowledge that they are dealing with metaphysics.

A good deal under the guise of practicality is pure metaphysics. There was once a man who conceived an abstract Lord Mayor. The conception he had, so he averred, had neither head, arms, legs, nor corpulence; it was not an image of any particular Lord Mayor, nor a fusion of several, but an abstract Lord Mayor. Well, we think this metaphysician was too confident in his powers of conception. But do we not imagine ourselves capable of the same kind of marvelous feats? Let us look at a case of aphasia. A man does not speak, and yet can understand what we say to him, and can think—on ordinary things, at any rate. These are the facts; no one disputes them. Now comes the metaphysician, who proffers the explanation that he has lost words, but retains the memory or ideas of words. There are, it seems, words, which latter, somehow, are not words. Now, what is an idea of a word which is not a word? It is, like the abstract Lord Mayor, simply nothing at all.

We should deal with the difficult and the complex in as realistic a manner as we do with the simple. The hysterical patient, who is said to have paralysis of the will, has some material change. What it is we do not know; and we never shall know, if we be content with metaphysical explanations which, in one sense, explain everything, but really explains nothing. I have long expressed the opinion that, for the scientific study of disease, we should regard them as examples of dissolution—using this term as the opposite of evolution. In this way, we shall avoid the errors of confusing the psychical with physical, and we shall steer clear of metaphysical explanations.

COMPARATIVE VALUE OF THE VARIOUS ALKALINE BROMIDES.—The results of the comparative experimental and clinical studies of Cheron and Fawkney on the above-mentioned bromides may be summed up in the following:

I. Sodium bromide controls reflex irritability and at the same time lessens sensibility, thus distinguishing itself from bromide of potassium, which also acts at the same time upon the nervous and muscular system in the double action of the bromide combination and potassium salts. The authors found in relation to the physiological action of bromide of sodium on man. 1. An increase in the secretion of urine. 2. Increase in its solid constituents. 3. Diminution of urea. The dose ranged from one to four grains daily. If a dose of four grains was given daily for a longer space of time an equalization took place, the excretion of urea increased again up to 17 to 19 grammes, and the amount of solid constituents to above the normal. In consequence of this observation the authors tried bromide of sodium in convulsions, renal deposits, and rheumatism, and with good results.

II. Ammonium bromide in the same dose (1 to 4 grammes), and administered under similar circumstances, gave the following results: 1. Diminution in the quantity of urine. 2. Increase in density, aside from its decrease in quantity. 3. Decrease in its solid constituents. 4. Of urea. This salt acts as a transient excitant resulting from its base, showing however, at the same time, the sedative action of the bromide.

III. Potassium bromide diminishes the excretion of urea, showing however, but slight diuretic action in daily gramme doses; hence it diminishes the assimilation of matter. It is excreted rapidly by the mucous membranes—similar to the other bromides, the sensibility of which it diminishes, and partly through the kidneys. It acts markedly upon the sensibility of the genital organs.

Therapeutically for the insomnia of nervous women and chlorotic persons, sodium bromide is preferable, since a dose of four to five grammes does not affect either the muscular activity or the intestinal canal, as potassium bromide. If the insomnia depends upon a partial or general congestion of the brain, ammonium bromide is preferable. In epilepsy, potassium bromide has many disadvantages — general torpor, loss of memory, and difficulty of speech. In the dose of four to ten grammes it occasions profuse diarrhœa. Of late the three bromides have been given in combination, the advantages in this are as follows: 1. Smaller doses, since the atomic weight of sodium and ammonium is less. 2. More rapid elimination. 3. The depressing action of potassium bromide is less.

In chorea, as a sequel to rheumatism, ammonium bromide is recommended; in chorea, originating from the medulla, sodium bromide; potassium bromide is only indicated in excessive irritation of the muscular tissue.—*The Medical Bulletin.*

THE NUTRIENT TREATMENT OF INSANITY.—"The greater my experience becomes," writes Dr. Clouston (*Annual Report of the Royal Edinburgh Asylum for the Insane*), "I tend more to substitute milk for stimulants. I don't undervalue the latter in suitable cases; but in the very acute cases, both of depression and maniacal exaltation, where the disordered working of the brain tends rapidly to exhaust the strength, I rely more and more on milk and eggs made into liquid custards. One such case this year got eight pints of milk and sixteen eggs every day for three months, and under this treatment recovered. I question whether he would have done so under any other. He was almost dead on admission, acutely delirious, absolutely sleepless, and very nearly pulseless. It was a hand to hand fight between the acute disease in his brain and his general vitality. If his stomach could not have digested and his body assimilated enough suitable nourishment, or if he could not have been taken out freely into the open air, he must have died. But to-day he is fulfilling the duties of his position as well as he ever did in his life. All acute mental diseases, like most nervous diseases, tend to thinness of body, and therefore all foods, and all medicines, and all treatments that fatten, are good. To my assistants, and nurses, and patients, I preach the gospel of fatness as the great antidote to the exhausting tendencies of the disease we have to treat, and it would be well if all people of nervous constitution would obey this gospel."—*The Practitioner.*

ANTIDIPHTHERITIC INHALATION—Some years ago, Dr. H. Hagar recommended a mixture composed of

Carbolic acid	10 parts
Alcohol	10 "
Water of ammonia	12 "
Distilled water	20 "

as an excellent inhalation in catarrhal affections. It was directed to be used thus: A small wide-mouthed bottle was to be be filled one-third with the liquid; then a sufficient quantity of cotton was to be introduced to just soak up all the liquid. The bottle was then to be well stopped. In coryza, incipient catarrh, or similar affections, the inhalation through the nostrils of some of the vapor of the compound was found to be of the greatest benefit.

The same author now recommends a still stronger compound, to be made from

Carbolic acid	10 parts
Oil of turpentine (or oil of Eucalyptus.)	5 "
Water of ammonia	12 "
Alcohol	20 "

A small quantity of this is to be dropped into a small wide-mouth bottle half filled with cotton or asbestos, and the bottle well stopped. After a few days, a little more may be added, until a strong odor is given off, when the bottle is opened.

A physician to whom Dr. Hagar recommended the use of the compound thinks that it prevents the spread of diphtheria, since, in five families, in each of which one case of diphtheria had become developed, its further spread was arrested, apparently through the use of the antiseptic inhalation. In another family, a second child was taken with the disease; but the child could not be coaxed to inhale the vapor. The inhalations should be as full and deep as possible, In some cases of coryza, it has been used with most excellent effects.

Should the odor of oil of turpentine be too offensive to any person, oil of Euacalyptus may be substituted for it.

SURGERY.

Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Diseases.—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F.R.C.S.

Lecture V.—We have now to consider the laws just adverted to in relation to those which regulate the recurrence of inflammatory attacks. That certain forms of erysipelas are prone to become persistently recurrent is, as I have already observed, well known. We habitually recognize the fact that a patient is liable to erysipelas, and expects that in him attacks will be produced by slight causes that will prove of much less severity than first ones usually do. If the recurrence has been very frequent the attacks are usually very short and mild; sometimes the intervals are so short that the disease becomes almost persistent.

Exactly the same facts are observed as regards proclivity to catarrh in all its varieties. They are sometimes also seen in liability to repeated attacks of diphtheria, a fact which has been recognized by many writers. I had recently occasion to perform tracheotomy in an orphan school on a child who was in extremis from croup. In conclusive proof as to the nature of the disease we removed at the time a large fibrinous cast of the trachea. The child passed through, I was informed, four attacks of croup previously. It recovered after the operation, and has, I believe, since been threatened with a sixth attack, which, however, never became severe. There is a peculiar form of œdema of the eyelids and cheeks which is caused by repeated attacks of erysipelatous inflammation, and which results at last in permanent deformity. Of this I have seen many examples. In these cases the first attack is usually one of the ordinary form of erysipelas of the face, with the liability to indefinite extension constantly witnessed in the malady, but the later ones are limited both in duration and extent, and the patient at length comes to know what to expect, and to be confident that the swelling will not go further than the face, nor last longer than a week or ten days. In some persons, and especially, I think, in the young, the upper lip and the alæ nasi are affected rather than the eyelids. The type of inflammatory action sometimes, as may be inferred from what I have said, ceases to be the most characteristic of erysipelas, and in others from the beginning it has in minor features departed from the type. Thus there is a form which we might call vesicating erythema which often affects the cheeks symmetrically, is of limited duration, and occurs over and over again. In some instances the vesication is extremely slight, and possibly absent, and erythema with œdema is all that we see. The cases differ from erysipelas in that there is little or no tendency to spread at the edge, and in some instances, in the comparative absence of œdema. They occur, I think, chiefly to the young, but adults and elderly persons are liable to recurrent inflammatory attacks of parallel clinical history in which the type of disease is rather of an acute but transitory eczema. All those diseases appear to be for the most part catarrhal in origin, that is, the exciting cause is usually exposure to wind and cold. They are of great interest to us as proof that maladies which are probably due to very similar causes both predisposing and exciting, may yet be attended by differing outward manifestations, and that when once the type has been taken in the individual the recurrences will be all of the same character.

They also form interesting pathological links one with another, and between erysipelas and its allies.

The morbid conditions which I have been referring to certainly establish in the individual who is their subject, through their long persistence or frequent recurrence, a state of health well deserving the name of diathese, and there can be little doubt that the peculiarity so produced might and would be likely to become hereditary. We thus have occasion to note how a permanent and transmissible peculiarity of health may take its origin. Erysipelas has in elephantiasis a congener of great interest. The distinction between the solid œdema which results from recurrent attacks of erysipelas and the more characteristic form of elephantiasis is only a matter of degree, and it is well known as regards all elephantiasis that repeated attacks of rigors with erysipelatous swelling are constant features of the disease. One is tempted, indeed, to go the whole, and declare that elephantiasis is, after all, only an example of persisting exceeding chronic erysipelatous inflammation with its resulting hypertrophic changes. Elephantiasis may vary infinitely in degree, but not at all so far as I know it in kind. It always begins in œdema, and from this it slowly progresses to hypertrophy. The hypertrophy may implicate the corium and cellular tissue only ("smooth elephantiasis"), or it may involve also the papillæ, and produce the tubercular form. Usually these two forms occur together in different parts of the same limb. The solid œdema, which is its first stage, may begin from a variety of causes. It may be induced by an attack of bona fide erysipelas, by an injury, by any slight local inflammation, a chancre, an excoriation between the toes, etc., etc. Almost invariably its persistence is favored by the mechanical disabilities of the part as regards the return of the venous blood and the contents of the lymphatics. We meet with elephantiasis chiefly in the legs, the labia, clitoris, penis, and scrotum, parts which, if once they become swollen, are dependent. The non-symmetry which prevails in a large majority of cases denotes the influence which purely local inflammation has in locating the disease. In some cases it affects equally both legs, and in these it may be taken for granted that the constitutional predisposing cause is strong. Such cases prove the fact of hereditary diathesis. They are scarcely ever met with in England, but only in those climates where the disease is endemic, and in races or tribes who are peculiarily liable to it. When the elephantoid process has once set in I believe it is never wholly cured, and no better instance could be produced of the pathological advantages of possession. The worse the disease is the worse it is likely to become. It is emphatically a self-aggravating malady. The mere fact of its existence tends necessarily to its spread. Slowly but surely it undermines the health of its subject, impoverishing his blood, and mainly by the recurring attacks of erysipelas which attend it, enfeebling his tone. Constitutional treatment does but little, and local measures are the only chance of benefit.

We need not feel much difficulty in interpreting the phenomena which we witness both in recurring erysipelas and persisting elephantiasis. They are doubtless examples of the pathological power of habit and indulgence. Just as a man who has once yielded to intemperance is in danger of becoming a drunkard, so is it with the tissues. The oftener they have yielded to any special process of inflammation, the more prone are they to yield again. No doubt but that as in the case of the drunkard and the epileptic, so also here, pre-existing susceptibility takes its share in favoring both the first outbreak and the continuance. This share, however, probably varies much in different cases, and may in some have been but very small. The main power at work has doubtless been the increase of proclivity which every recurring attack begets, until at length the habit or disease, call it which we will, becomes fixed. Nor must we consider, as I have already remarked, that the power of habit will be restricted in its influence to the individual. If children be borne to a man after the habit has been acquired, they will almost necessarily inherit it. The certainty of inheritance will be in ratio with the fixity of the habit and the length of time that it has persisted before the birth of offspring. A great difference must be noted as the inheritance of proclivities which are developed before and after the conception of offspıng. If a disease comes into active existence only subsequently to the production of the whole of the offspring of its subject, clearly the latter will inherit only the degree of proclivity; and it may chance to have been but very small which their parent may have originally possessed; but if born after the diseased process has been long in activity, they will take over the original disease much augmented under the force of pathological habit. Illustrations of this in the case of the children of drunkards are of common occurrence. It is all the difference there is between one who simply bequeaths his patrimony as he received it and who has largely increased it by his own gains. Elephantiasis, although preceding the same disease, whether met with in temperate climates or in the tropics, is far more common and severe in dark races and hot countries. Malaria has, perhaps, something to do in predisposing to it, and heat and moisture unquestionably aggravate it. It is, possible, however, that we have much aggravated our impressions both as to race and climate as strong influences, since the laws of inheritance will account for excessive prevalence to a large extent when once it has obtained its hold. It may be that we should regard it as to a considerable extent resulting from a diathesis which is heritable in certain families, tribes, and races. There are certain phenomena which may, perhaps, deserve the name of revealing symptoms. Not but that all symptoms are in a sense revealing, but there is a special and emphatic manner, since they disclose the fact of the existence of a tendency which, although present from birth, possibly has never been suspected. Symptoms of this kind occur, as might be expected, in connection with powerful existing causes. Peculiar manifestations following the employment of special drugs, or in the introduction of special animal poisons, may rank under this head. If a patient who receives the virus of small-pox develops a hemorrhagic eruption, or if acne follows small doses of iodide of potassium, we may feel sure that in these occurrences we have a revelation as to the peculiar idiosyncrases of the individual. It is certain that those to whom these events happen differ, and have probably differed through their whole life, from others in whom similar causes are not followed by similar effects. The touchstone by which these individuals' peculiarities may chance to be revealed are innumerable. The behavior of the vaccination sore and that of the primary sore often furnish to the observer an unexpected clue to the peculiarities of the individual. Sometimes the revelation concerns only the specific cause which has been in action, but in others it extends much more widely. For instance, I believe that a clean well-indurated chancre without tendency to ulcerate or inflame rarely occurs, excepting to a person in sound health, and is far more common to those of dark complexion than in the fair. An opposite tendency on the part of the sore by no means always reveals or implies weak tissues or poor health, but it often does so in a definite manner. In making inferences of this kind, however, we must guard against the error of attaching importance to the state of the sore during the first week, which is usually due rather to peculiarities in the pus in which the contagion was effected than to those of the recipient. The syphilitic virus itself, on the other hand, always probably the same, and differences in its results are due to temperament, diathesis, or health state of its recipient, and come into the class of revealing symptoms. Some of these phenomena deserve, I think, another distinctive name, and may be conveniently known as retrospective symptoms. They reveal not that which is to come, nor even that which is present, but rather that which is past. In some cases it may be their causes are still extant and influential, but in many I believe that the symptoms in question occur only at a considerable period after the termination of the activity of the influence which gave it birth, and that they imply little or nothing as to the present health of patient or his future liabilities. They may, however, reveal a diathetic tendency, which by hereditary transmission may bud out anew in offspring. The explanation of this probably is that they are associated with diatheses which manifest their existence chiefly in middle or early periods of life. The term, retrospective symptoms, ought not, perhaps, to be applied to conditions which are simply the remains of bygone disease, however useful in a little way such conditions may be. It is rather to be kept for conditions which originate late, and which, like slow-growing seeds, spring up long after the seed time. The best example which I can give of what I mean occurs in the instance of xanthelasma palpebrarum. When xanthelasma is developed in various parts of the body in an adult, I believe it is always associated with liver disease, and often with definite and severe jaundice. In these instances it reveals a still extant hepatic diathesis, plus probably some slight tendency to new growth and fatty degeneration. In the far commoner cases, however, in which xanthelasma patches are met with in the eyelids—only no such association is observed—a large majority of those who show them have never had jaundice, and are in no sort of danger of it. Many, however, have in former years suffered much from bilious headaches, and if not actually from these, they have experienced temporary health disturbancer, attended by dark areolæ around the eyes. It is this fact which the patches in question reveal, and they may occur for the first time long after all liability to the disturbances in question have ceased. They are, therefore, retrospective, and I am inclined to think that in many cases they are solely so, and that little or nothing is to be inferred from them as to the patient's future. In other cases—and perhaps not a very small minority—the original liability still persists, and will continue to show its effects. But even in these xanthelasma patches are usually the product of what is long past, and have required a very long time for their reproduction.

I have already spoken of certain other and very rare cases in which xanthelasma occurs in young children—possibly in several members of the same family—always in a multiplex form, and without any association with disturbed health. In these curious cases I would suggest that the retrospective is yet further back, and that they reveal the fact that some predecessor has suffered from liver disorder, or possibly been the subject of xanthelasma itself. It is true of a number of morbid states which have received special names, and are often spoken of as if they were complete in themselves and distinct from all others, that their chief interest for the nosologist lies in the fact that they are symptomatic of diathesis. Their occurrence reveals the states of peculiar health into which the persons showing them have respectively fallen.

Thus, as we remarked when dealing with the subject, enlargement of the thyroid gland, when endemic, reveals a diathetis which may end in great degradation of the physical state generally, and we ought by no means to be content to name it brochocele, as if in that term we had denoted the whole malady. I propose now to take up in succession a number of names, and separate according to custom distinct disease, and to ask concerning each what is its symptomatic value, what does its occurrence reveal, how far may its existence help us to the discovery or recognition of the health peculiarities of the individual. We will take the first acne. Under this name certain conditions which differ considerably from each other are grouped, but my impression is that the grouping is to a considerable extent natural, and that they really are closely related. All forms of acne have this in common, and they are due to morbid processes occurring in or around sebaceous glands, and further, that their commonest site is the face, with the exception, perhaps, of white acne of milium, which is due to congenital occlusion of some of the gland orifices and accumulation of white albumen (?) under a thin transparent pellicle of epidermis. All are, at one stage or another, attended by congestion or inflammation. Their differences depend probably upon differences in the character of the skin in different persons, differences in age, and modification in the ordinary causes.

In order that acne should occur, it is essential in the first place that the sebaceous system should be largely developed, and the skin moderately thick. These conditions given, we shall then be able to watch the play of various influences, local and general, upon their subject's health in producing its various forms. If his state of tone and vigor remain perfect, probably his glands will continue to elaborate and pour forth their secretion without any disturbance. No accumulation will occur and no secondary congestion around them will be observed. But the slightest, the most temporary disturbance of tone may derange the function of these glands, and may permit the retention of a thick secretion, or favor the occurrence of inflammation around an irritating plug. How rarely do we witness the occurrence of acne in any form before puberty, and how frequently do we obtain proof after the period that the influences of the sexual system is all-potent in so disturbing the tone that acne spots are produced. In girls menstruation is often attended regulary every month by fresh eruptions of acne, and in boys nocturnal emissions frequently have the same effect. If, however, the integument were originally thin and not greasy, then it is possible for the tone to be very seriously damaged by the causes adverted to, and yet no acne may be produced. In such cases pallor of skin may be the only result. In others in which there is less than usual proneness to inflammation, and perhaps very slight disturbance of tone, a peculiar form of lichen-acne, or very chronic persisting enlargement of the gland without congestion, may occur. This is seen chiefly in the temples and forehead, and in the male sex it is often coincident with similar long persisting enlargement of the gland on the penis and scrotum.

The location of acne on the face is probably often explained by pre-existing peculiarities in the state of the skin of the face. Some get acne almost solely on the chin, or on the chin and cheeks, and these are almost always those in whom the nose is specially thin. On the other hand, those in whom the nose and skin are generally thick become liable, when acne is developed, to have the cellular tissue around the glands implicated as well as the glands themselves. Thus, tuberose indurations of a very chronic nature may be produced, which, if in adult life the cause of aggravation remain, may advance from what is known as acne tuberosa to grotesque deformities. Acne is very constantly hereditary, the same form often prevailing in several members of a family, and acne tuberosa, I believe, often descends in several generations from father to son. I have not seen acne tuberosa more than once in women, and in that instance a sister of the patient had common acne, and here males had shown the tuberosa form. The pustular or common form belongs to youth, the rosaceous or erythematous to adult life. If, then, we attempt to reply to the question "What does acne in its various forms imply?" we should, I think, have to answer that, in the first place, it denotes original and heritable peculiarity in the structure of the skin; next, that its common form in young persons usually implies greater or less disturbance of tone in connection with the sexual system, and that its rosaceous form results from dyspepsia, attended by flushing of the face after meals. The tuberose variety implies original peculiarity of structure, and is often aggravated by dyspepsia and intemperance. Common acne is almost constantly attended by proofs of enfeebled circulation, such as cold feet, and often by constipation.

Closely associated with acne are the liability to styes, to some forms of sycosis, and to boils, but with these exceptions I know of no forms of skin disease which are due to the same class of causes, or denote the same conditions of health.

A few words may next be said as to the symptomatic meaning of eczema. This symptom is in a large majority of instances so far local that it is curable by local measures, and scarcely, if at all, by constitutional ones, whether drugs or restrictions as to food. Yet it is probable that there is always a minor degree of constitutional proclivity and this is sometimes proved to be hereditary. In a few cases, dietetic restrictions do appear to have important influences as for instance, the forbidding of milk and sugar. I have already alluded to the remarkable way in which eczema appears to aggravate itself, and when once it has begun is its own source of extension. Probably a great many cases which become severe and general, might have been stopped in the beginning by appropriate local treatment. In most forms of eczema arsenic is useless, and this fact serves to detach it definitely from the psoriasis group. There are, however, certain forms of nummular eczema in which well-margined patches are scattered symmetrically over the limbs and trunk, in which the disease approaches very closely to a form of psoriasis, and is more or less under the control of the specific for the disease. Putting aside a very large number of mild or local cases, which are clearly due to local causes, we encounter severe eczema in the following forms: First, as a disease of the dentition period of infancy, or what is often equivalent, the lactation or milk-fed period. Second as a most persisting and troublesome eruption affecting only special regions in children and adults, as for instance, the hands, the lips, and the anus. Third, as a general and severe eruption in advanced adult or senile period of life.

It is a noteworthy fact that when infants who have suffered very severely get well, they usually get quite well, and remain well through life. General attacks affecting the whole body occur for the most part near the extremes of life. Applications containing tar, if weak enough, will almost always both prevent and cure eczema. Sea air is often definitely advantageous, and the disuse of milk and sugar are often important. With such facts before us can we find answers to the questions: Is eczema usually a sign of gout, or any allied condition of defective digestion? Is it catarrhal? Is it due to structural idiosyncrasy of the integument? I should incline to reply that it is certainly not catarrhal in any correct use of the word. It is not produced by the common causes of catarrh, nor does it display the clinical course of all catarrhs in the tendency to spontaneous recovery and frequent repetition. Next in many cases it does imply a minor degree of mal-assimilation alleged to gout, and is benefitted by abstinence from beer and wine. Recent experience has led me to believe that the offending article is often milk, and to think it of importance to restrict it as much as possible. In very many, a large majority of cases, there is no true gout either in the patient or relatives.—*Medical Press.*

THE RADICAL CURE OF VARICOCELE. — M. Reginald Harrison describes his method of operation as follows;

It consists in exposing the cord by a vertical incision about an inch in length and separating the veins which are most prominently varicose. These are each tied in two places with a catgut ligature. Usually three or four main veins require to be so dealt with. In addition, it will be observed that there are a number of small veins in plexuses or bundles, especially in close proximity with the epididymis, which cannot be obliterated in this way; these he destroys with a few light touches of the thermo-cautery, taking care, while this is being done, to protect the vas deferens by holding it from behind, between the thumb and index finger of the left hand. The operation is conducted antiseptically. No sutures are introduced. and the wound is left to heal by granulation.. He has now been performing this operation for some years, and he is not aware of an instance in which there has been a return of the varicose condition of the veins; the cicatrix which results is of a contractile nature, such as usually follows wounds inflicted by burning and gives a feeling of firmness to parts which previously were complained of as being unnaturally lax. It is a matter of great importance, in view of preventing a return of the disease, to destroy the varicose veins, which can only be seen and not felt. If this is not done obliteration only means driving the disease into new channels already preparing to dilate.

He has operated on the spermatic veins in his way a great many times. In one instance only was any delay or danger imported into the case. This was an attack of erysipelas, which was directly traceable to the patient sitting on a draughty watercloset very shortly after the operation was performed. Though here there was delay and some danger, the result was satisfactory. As to the necessity for performing an operation with a view of effecting a radical cure, the sensations of patients, in addition to changes taking place in the testicle, are sufficient to indicate this. Hence, in deciding what is to be done, it is of importance to have under notice the various procedures having for their object the same result.—*Lancet.*

OBSTETRICS.

HYPER-EMESIS IN PREGNANCY.—The author, Prof. M. Horwitz of St. Petersburg, proposes the name of "Vomitus gravidarum perniciosus," applying it to a condition, which, from the beginning, exercises a decided influence upon the organism of the pregnant woman, which gradually grows worse, and results finally in a state in which the stomach rejects all food, liquid or solid. It is an emesis which may be called intractable, and continue until it ceases of itself, or ends with the death of the individual affected. He quotes from notes obtained in 186 cases of which eighty-three primiparæ and twenty-nine multipara suffered from this complication.

The notes regarding normal vomiting may be summed up as follows: 1st. It occurs most frequently between the tenth and eleventh weeks of gestation; 2nd. It rarely makes its appearance suddenly; 3rd. but is preceded by a train of symptoms on part of the digestive organs, especially nausea, which are noticed as early as the third or fourth weeks.

4. There seems to exist a certain relation between the duration of nausea and the vomiting—the longer the period of nausea the shorter the emesis, and *vice versa.*

5. A similar relationship is noticed between the intensity of these two symptoms.

6. The vomiting of pregnancy is not identical with that caused by gastric disturbances; it is easily excited without causing much pain.

Horwitz now describes minutely twelve cases and their clinical symptoms. He divides the disease into two periods.

In the first period the duration of the nausea is relatively short, and if the appetite remains undisturbed, the emesis occurs several times daily, following immediately the introduction of food into the stomach. In multiparæ it occurs at irregular intervals and even when no food has been taken. One of the first results is a certain anorexia and a craving for victuals, which are digested with difficulty; rarely do they complain of thirst, but frequently of an irritable ptyalism. Diarrhœa is rarely met with. In the majority of cases he observes depression of spirits, even while the debility is slight. Many patients complain of a disagreeable odor emanating either from surrounding objects, or from their own persons (Hyperosmia), a symptom of great prognostic value. Such an hyperosmia, which has never been referred to by other authors, Horwitz has observed frequently in a certain class of pregnant women and gynecological patients, while another class of patients, on the contrary, are fond of certain odors (Pica olfactoria).

In the second period of the disease the attacks of vomiting increase in frequency, growing almost continuous. They are very harassing on account of the empty condition of the stomach. The mass vomited consists of mucus of a green color frequently mixed with blood. In consequence of the strenuous efforts at vomiting, the abstinence from food and want of sleep there takes place a rapid loss of flesh and strength. Combined with these, there exists a distressing thirst, fear of partaking of all food and drink, obstipation sets in (contra Rosenthal), the quantity of urine is diminished and contains albumen.

Febrile symptoms are not observed during the first period, but later on in the course of the disease the temperature rises at irregular intervals, while at times it falls below normal. On the other hand the pulse undergoes sudden variations. It grows more rapid (110-112), may be easily compressed, and grows fuller after emesis. The intellect remains unclouded in spite of the general debility, and only two or three days before death there occur paroxysmal attacks of delirium of a subdued character.

All of these clinical symptoms may be considered the results of starvation.

As concerns the etiology, Horwitz declares vomitus gravidarum perniciosus to be an affection of the wealthier classes, since of his twelve cases but two were clinical material, and since during his twelve years' experience as director of the Marien-Gebärhause not a single case came under his observation. Thus may be explained the absence of statistics and the incredulity of hospital physicians in regard to this malady. We find by investigation that this hyperemesis occurs most frequently in France, next in England, and rarely in Germany.

Other conclusions are the following: Primiparæ are more subject to vomitus grav. pern. than multiparæ. 2. In a proportionately small number of cases is the vomiting to be regarded as merely a reflex symptom. 3. In the majority of cases the reflex vomiting continues until it becomes a pathological condition, as a consequence of advancing alterations in the sexual organs, especially the uterus. 4. Displacements of the uterus (verses, flexis) do not possess the amount of pathogenetic importance which some authors (Graily Hewitt, etc.), claim, but simply imply that certain pathological alterations have occurred in the uterine parenchyma. 5. These alterations consist of an inflammation of the organ. The inflammation of the neck does not exercise as much influence as that of the corpus and fundus. 6. Inflammation of the serous membranes is undoubtedly of pathogenetic importance in this disease. Probably this may be an explanation of this symptom (hyperemesis) in extra-uterine pregnancy. 7. The vomiting is connected in some cases with more or less severe pathological changes of stomach and intestines. 8. The greater the disturbance of the digestive apparatus the greater is the danger of the vomiting assuming an intractable character.

The prognosis varies according to the attacks and the duration of gestation. The hyperemesis runs a chronic course and is not primarily intractable. The prognosis is the more unfavorable the earlier the symptoms are manifest in the course of the pregnancy. Unfavorable also in primiparæ (although it is not absolutely favorable in multiparæ). Criteria of an unfavorable prognosis are: Constant diminution in quantity of urine, presence of albumen, progressive emaciation, severe cephalalgia, increase in frequency of pulse, and finally apathy of patient.

The fatal termination is caused by marasmus or peritonitis. Cases have been reported, however, resulting in recovery despite the above symptoms, but only after an abortion, which accident is of great importance. In the literature on the subject no statistics as to the death rate can be found, except by Joulin, who gives forty-four per cent., and hence it is surprising that some authors (Braun, Haussman, Ahlfeldt) offer a favorable prognosis. Of the twelve cases observed by Horwitz, in seven the pregnancy was not interrupted; of these, three died. In the remaining five abortion was produced, two dying. Hence in twelve cases we have five deaths.

Therapy: The legion of remedies (alkalies, alkaline waters, bismuth, laudanum, oxalate of cerium, sinapism, chloroform or ether spray upon abdomen and back, ice pills, iodide of potassium, bromides, nitrate of silver, electricity, etc.), is a proof of their inefficiency. Besides, they can be employed only in the initial stage of the disease. The author advises rest in the horizontal position in a darkened room; diet nutritious, but select.

Nutritive enemata may be employed, observing, however, the following rules: 1. One or two hours before their administration the rectum shall be thoroughly cleansed by injection of water; 2. But small quantities at a time, otherwise they will be rejected; 3. Avoid frequent use so as to avoid irritation; 4. When debility sets in add two or three tablespoonfuls of wine (sherry or port); 5. Should the enema be rejected add a few drops of tincture opii.

The gynæcological therapy is not to be neglected. If inflammation is present depletion is proper (by means of scarification; leeches being injurious). Nitrate of silver applied to the portio vaginalis is not of much benefit.

Should, however, all these remedies above mentioned prove without avail, but on the other hand the disease gradually increase in severity and the life of the patient in jeopardy, only one chance remains—to interrupt the progress of gestation; to produce abortion artificially. The earlier this procedure is adopted the more rational. Hörwitz performs the operation in the following manner: After preparing the genital organs by warm carbolized injections and dilatation of the cervical canal by means of a tupelo, he separates the membranes from the uterine walls by means of a sound. Only in case of delay in the progress of the abortion does he rupture the membranes. In eight cases, in which he employed this method, he has not seen retention of membranes. The hemorrhage is slight, even less than in spontaneous abortion.—*Deutsche Med. Zeitung.* G.A.F.

An Obstetrical Phenomenon — Crying of the Fetus in Utero.—By A. Harlow, M. D., Detroit, Mich.

The following case is sufficiently striking, I think to warrant its publication, even at the risk of having my veracity called in question by doubting Thomases.

The lady to whom I was called moved in the humbler walks of life, and was about forty years of age and in her fifth confinement, eleven years having intervened since giving birth to her fourth child. I would state for reasons that may be apparent to the reader before closing this note, that another physician, one of high respectability and standing, had been previously called, but prior engagements preventing his attendance in time, I was summoned in his stead. Soon after my arrival, finding her pains rapidly increasing in severity and frequency, in absence of all female assistance, I helped my patient upon her seat, and from digital examination found the waters just gathering, and after one or two additional pains the membrane broke and the amniotic fluid quite flooded the bed. I had no difficulty in satisfactorily diagnosing the position, which I found to be a vertex presentation of the sixth variety, according to Baudelocque. Immediately after I had thus satisfied myself as to the nature and character of the presentation and before the labor had further progressed, and while the head was yet engaged in the superior strait, the child made two distinct audible screams that could be plainly heard in any part of the room. When this cry was first heard I was alone with the sick woman, and being greatly surprised at what I heard, gently passed my hand up the vagina and found the head still in the superior strait. Immediately following this cry of the fœtus there was another free discharge of amniotic fluid. During the space of an hour or more before the arrival of female help to assist me, I made several ineffectual attempts to disengage from its fixed position, that it might be forced down the passage by the same uterine contractions that were regularly taking place, but with all my efforts and the assistance of nature, did not succeed in getting any descent of the head, and during this time the child had several spells of crying, the same as was heard at first, the tone and voice being unmistakably that of a child. Two or three elderly women coming in to sympathize and assist, as is usual on such occasions, I made little or no further attempts for one or two hours of hurrying on the labor. Satisfied there was no danger in the case, I did little but watch and wait for a time, to see what rest and nature would do where art and officiousness had apparently failed. During this apparent lull the pains did not entirely cease; and generally following each one the child would cry as before. At the first cry after the arrival of female help one old lady exclaimed in her joy:

"La me! the child is born."

"No, madam, the child is not born."

"You don't say, Doctor, that the child is not born, and crying, too?"

"Yes, madam, it has had spells ever since my arrival the same as you have just heard."

"Dear me!" was the exclamation of the good woman, and as soon as she could take a long breath, said, "and is not that strange?" and as a mark of veneration settled the matter by declaring that "with God there is nothing impossible."

Waiting as long as I thought it justifiable for the ineffectual contractions to disengage the head from its impacted position, I applied the forceps, and with suitable traction accompanied with one or two good pains, delivered the woman of a large female child.

I saw my patient next day, and found her very comfortable and apparently doing well; her pulse was normal, no unusual heat or tenderness across abdomen, and was free from all pain. Finding her alone on this my second visit, and in a mood and condition for conversation, I took occasion to investigate her more fully relative to this curious phenomenon. She told me "the child first commenced crying four weeks before it was born, and kept it up at intervals till its birth, since which time it has not cried at all." This lady declared and persisted that she went four weeks over her regular time; that at the proper period for the birth of the child it commenced crying and kicking, as though, to use her own language, "it would come right through her ribs." At first, she said, she was greatly surprised and alarmed, but as this peculiar freak of nature continued without producing any particularly alarming symptoms, she became so accustomed to its frequent repetition that her alarm vanished. After many thanks from my patient for bringing her so safely through her perilous condition, I left after prescribing her favorite opening medicine, which she informed me on such occasions was castor oil, a little to be taken that evening at 9 o'clock, and if need be repeated next morning.

The following day I called according to promise, expecting to dismiss my patient from further medical attendance as intimated the day before; but to my surprise on calling according to appointment, found another doctor present, an occurrence, whether agreeable or otherwise, not altogether unknown to the medical profession. I learned that the woman had taken the oil as I directed the night before. About 1 o'clock a.m. she was taken with pain in her stomach and claiming that there was no messenger at hand who knew where I could be found in the night, sent for the gentleman I found present at his second visit. I was told that the woman had not only had no operation from the oil, but that medicine had been given to prevent any movement of the bowels. Without expressing myself pleased or displeased at the course taken, I left the patient in the hands of the physician first called, who could not attend in time to render relief. And now, having no criticisms to make or animosity to gratify, I will only add that the lady died the next day. The child is living and doing well.

Deeming the above case an anomaly in obstetrical practice, having been an accoucheur for forty-six years without ever having met with one like it before, I have thought best to make a brief but truthful statement of the leading facts and circumstances.

To any doubting the facts stated, I can only say that I have reported my case accurately and truthfully in every particular, which I know to be so from personal knowledge.

[We have only to add by way of comment on the above that Dr. Harlow is well known to the profession of this city, and unless he was himself greatly deceived, which he assures was impossible under the circumstances, we here have a case which is, we believe, usually regarded as an impossible occurrence. Those who know Dr. Harlow will certainly not call his veracity into question. —Ed. *Mich. Med. News.*]

Academy of Medicine.—Dr. Ravogli will read a paper on "Gun-shot Injuries of the Brain," next Monday (11th inst.) at the Academy.

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The editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, September 9th, 1882.

The Week.

Among the Russian refugees recently arriving in New York were thirty-five medical students, eleven of whom were woman. Considering the scarcity of young doctors in this country, and, the uncertainty of the coming crop, this gives to the Russian immigration the appearance of supplying a long-felt want.

The above telegram to the Associated Press in a very mild way indicates the great demand for and scarcity of doctors in this country, and sort o' accounts for the rushin' standard of medical education adopted by some medical colleges, commonly known as the phenomenon plan.

In the interests of the fair fame, honor and glory of the American flag, we appeal to our readers to forthwith institute a diligent search among their patrons, uncles, aunts and cousins for material out of which to coin the future

American doctor. Here we are threatened with an immigration of untold millions of doctors, subjects of a foreign potentate, drilled in the art of "bending the pregnant hinges of the knee, that thrift may follow fawning." This is a matter of self interest; if these hordes of doctors of the rushin' make and persuasion are permitted to land on the shores of this land o' liberty of ours, how long will it be until they are candidates for erection into boards of health, with power to compel all free-born American medical colleges to adopt the rushin' standard of medical education and their conduct on the phenomenon plan? Again, we submit; the patriotism of our profession is at stake. With the coming of this horde of rushin' made doctors will come new habits and customs. The future interne of our best hospitals will no longer treat the inhabitants of those charitable institutions on the jamboree system. What do they know of the powerful effect of native bug-juice? How long will it be until our best offices will be filled from the ranks of the coming flood. They will be our school directors, police surgeons, railway doctors and pest-house physicians; yes, and worst of all they will fill the office of coroner, where they may have the opportunity and satisfaction of sitting on the bodies of all our dead who have not been treated according to the practice of the rushin system. We appeal to our readers in the name of the stars and stripes to arise and resist the invader. If you have no relations of your own to send to a medical college, send some of your wife's, and do not delay for they are comin' in telegrams.

Miscellany.

ANTISEPTICS IN PHTHISIS.—Dr. William Porter, Physician to Throat and Lung Department, St. Luke's Hospital, St. Louis, thus summarizes:

Proven, it seems to me, are these two propositions:

1st. Phthisis is a specific disease from a specific cause.

2d. Phthisis may be produced by absorption of tuberculous matter in contact with the mucous membrane of the air passages or intestinal tract.

There is also evidence that the energy of this tuberculous matter is due to germ development and progression.

Hence the value of antiseptic influence in the treatment of phthisis, not only in the later stages during pus production and absorption, but also in the earlier process of infection.

One great demand is for that, which by local and internal use, may meet and destroy the septic agencies of disease. Such a remedy must be effective, unirritating and non-poisonous, susceptible of ready dilution and easy absorption; and withal inoffensive in odor and taste.

Carbolic acid and iodoform do not fully meet these requirements, and less harmful yet no less potent means of antagonizing contagion and putrefaction are finding favor.

The compound known as Listerine has for nearly two years served me better than any other remedy of its class, and, in the treatment of phthisis, has almost supplanted in my practice all other antiseptics. In treatment of diseases of the upper air passages it is pleasant and does not irritate; in the fermentative dyspepsia so often accompanying phthisis it is safe and efficient.

It is the most powerful non-toxic antiseptic I have yet found.

IMPURE WATER MAKES IMPURE ICE.—Prof. Raphael Pumpelly, of the United States Geological Survey, expresses himself as follows in the *Sanitarian*:

1st. Water in freezing frees from substances which in solution with it give a fluid of greater specific gravity than water alone; but it still retains, even of these, more or less, entangled in the ice.

Substances floating in suspension are entangled in the ice, and to this the microscopic low forms of life, among which are the infectious germs, form no exceptions.

2nd. Ordinary organic impurities are merely preserved from putrefaction during the period of their existence in a frozen condition. Freezing is only a temporary arresting of the processes of decomposition, and these are resumed when the requisite temperature is again attained.

With regard to the effect of freezing on the specific characters of these low forms of life (the germs of infectious disease) we know that as germs they withstand a pretty good baking and freezing; but I think it is not yet settled whether they lose their infectious character in these processes.

It certainly seems to me that no less care is necessary in maintaining the purity of ice than of ordinary drinking water; indeed, one should suppose that greater care would be necessary, for the following reason:

While, during the warmer season, the dead organic matter carried into streams and ponds is rapidly decomposed, or used up in nourishing plant and animal life, during the cold weather it tends to accumulate, and owing to its lightness, it may well happen that the ice in forming may entangle so much of it and of bacteria germs (those of infectious diseases) as to render the ice much more contaminated than a corresponding amount of drinking water from the same source.

CHEMICAL DEEP-SEA SOUNDINGS.—Sir William Thompson's apparatus for deep-sea sounding consists of a glass tube filled with air, sealed at the top, but open at the bottom, and prepared inside with red prussiate of potassa. It is placed in a brass tube, closed at the bottom, but open at the top. The brass tube is partially filled with ferrous sulphate, which, when coming into contact with the red prussiate, inside the glass tube, forms prussian blue. When the instrument is thrown into the sea, the pressure of the water compresses the air, forcing the ferrous solution up the glass tube, according to the depth to which it descends. On measuring the length of the blue stain the depth of the sounding is ascertained.—*Drug. Circular.*

INCOMBUSTIBLE MATERIALS.—At one of its last meetings, the Sociétié d'Encouragement à l'Industrie awarded a prize of 1,000 francs to M. Abel Martin for his processes of making textile fabrics, etc., incombustible. The following are the recipes for the different preparations:

For light fabrics.	Kilos.
Sulphate of ammonia, pure	8
Carbonate of ammonia, pure	2½
Boracic acid	3
Borax, pure	2
Starch	2
Water	100

Keep the solution at a temperature of 30° C. (86° F.), and immerse the fabrics: let them dry immediately, and reimmerse as in ordinary starching. The liquid costs about sixteen centimes per litre (twelve cents per gallon).

For painted curtains, theatre scenery, furniture, wainscoting, cradles, and window shades.

	Kilos.
Chlorhydrate of ammonia	15
Boracic acid	5
Softened glue	5
Gelatin	1½
Ordinary water	100
Lime	q. s.

The mixture is kept at 60° or 80° C. (140° to 179° F.) until it is of the consistency of oil. Spread it over the materials with a brush, like varnish. For scenery already painted, spread the liquid on the unpainted side. Care must be taken to cover twice over the frame and posts. With one kilogramme, costing nine francs, twenty-one centimes ($1.98), five square meters (9½ square yards) can be covered.

For coarse curtains, cords, straw, and wood.

	Kilos.
Chlorhydrate of ammonia	15
Boracic acid.	6
Borax	6
Ordinary water	100

Keep the materials in the mixture at a temperature of 100° C. (212° F.) for fifteen or twenty minutes. The liquid costs twenty-three centimes the litre (18½ cents the gallon).

For papers of all kinds.	Kilos.
Sulphate of ammonia	8
Boracic acid	6
Borax	2
Ordinary water	100

Heat the mixture to 59° C. (138° F.) The litre costs fourteen centimes (eleven cents per gallon).—*Textile Record.*

TO DETECT PICRIC ACID IN BEER.—Picric acid is said to be sometimes added to beer when hops are scarce. A convenient method to detect this adulteration is to concentrate the beer to about one-third of its volume and to agitate it with ether or petroleum benzine. The upper layer of liquid is drawn off, allowed to evaporate spontaneously, and the residue dissolved in water. The aqueous liquid is heated with white wool, which, in presence of picric acid, will acquire a yellow color. One part of picric acid may thus be detected in one hundred thousand parts of beer. —*Drug Circular.*

NITRITE OF AMYL.—Mr. David Dott draws attention to the very bad quality of some specimens of nitrite of amyl in the English market. Some are utterly useless, and have little or no power to produce the ordinary physiological and therapeutical action of the pure drug. Many of the cases of so-called failure of this remedy in angina pectoris are no doubt due to the bad quality of the drug employed.—*Drug Circular.*

NICKEL-PLATED VESSELS.—Experiments made by H. Shultze, have demonstrated that the cooking or keeping of eatables in nickel-plated vessels is entirely harmless. A dog was given, among his regular food, quantities of acetate of nickel, increasing from 0·5 to 10·5 grains per day, and did well. Moreover the amount of nickel dissolved from nickel-plated vessels by sour eatables is very trifling.—*Rep. Anal. Chem.*

CONVERSION OF A VEGETARIAN.—A party of friends who were boarding at a "hygienic" establishment, while taking a walk in the fields, were attacked by a bull which chased them furiously out of his pasture. "That's your gratitude, is it, you great hateful thing?" exclaimed one of the ladies, panting with fright and fatigue. "After this I'll eat beef three times a day!"

Bibliography.

A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN.[1]

A medical work that has successfully passed through six editions and a seventh demanded, and that is used as a standard text-book by every reputable medical college in the land, has passed the bounds of criticism and needs no commendation at the hands of the reviewer.

In the preparation of this edition the authors have revised the entire work and brought the statistical tables up to the date of issue. Several new chapters have been added, one on "Thrush," one on "Rötheln," and a very valuable chapter on "Food," in which the subject of condensed milk is carefully considered.

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[1] By J. Forsyth Meigs, M.D., and William Pepper, M.D., LL.D. Seventh edition, revised and enlarged. Philadelphia: P. Blakiston, Son & Co. For sale by Rob't Clarke & Co. Price, cloth, $6; sheep, $7.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of September 4th, 1882.

WM. JUDKINS, M.D., *Vice-Pres't in the Chair*, W. H. WENNING M.D., *Secretary*.

DR. J. L. CLEVELAND, the President, after having called the Vice-president to the Chair, reported the following instances of complications of variola:

Purpura Hemorrhagica Variola.

July 30th I was called to see F. R., female, æt. 12 years. She was walking around the house, and did not seem to be seriously sick; temperature 101, pulse 100. The history of malarial fever of three or four days duration was given. The next day there was no material change in the symptoms, and no uneasiness was felt in regard to the case. The third day the child was worse. An eruptive fever had begun to show itself, and a few papules had developed on the face and back; the papules had not appeared at other points. The face and conjunctiva were congested as though the eruption was going to be thick. On the back the papulation was irregular, and some of the papules were vesicular and resembled chicken-pox. The symptoms seemed mixed, though I expected varioloid to be developed fully in a few days. The symptoms did not present anything alarming. On the fourth day the scene had entirely changed; the patient had rested badly during the night, and had suffered with distressing nausea since the afternoon of the preceding day, during the night and up to the time I saw her at 9 a.m. At this time she was uneasy and kept tossing about the bed; her respiration was sighing and labored. The skin was of a dark, sodden, scarlet hue, deeper colored in the face and body than on the extremities. There were bluish black hemorrhagic spots all over the body. These varied in size, some few splotches of irregular shape being as large as the finger nail, and small round spots and many petechial points; there were hemorrhagic spots under the conjunctiva. The tongue was swelled and was so anæmic that it looked almost white, and along its side was the impress of the teeth; temperature 103, pulse 100 and full; expression anxious. At 10 a.m., Dr. Geo. E. Jones saw the case with me, the symptoms were then as above described, except that the cutaneous congestion was not so marked. The patient rapidly succumbed and died at 1 p.m., of the same day. The papules had entirely disappeared and the skin was smooth to touch.

Arrested Variola Resembling Measles.

August 27th (Sunday) I was called to see a child, æt. 14 months, with convulsions. These subsided in a short time. The child had a temperature of 101 or 102, and had coryza and a cough; some eruptive fever was suspected, but it was not clear yet what it would be. Knowing how indiscreet parents are sometimes about giving small children improper food, I thought best to give the child a purgative. The next morning, Monday, an eruption, rubeolous in character, was beginning to show on the face and neck; the conjunctiva was injected and the eyes watery. The child was quiet and resting easily. Tuesday, the third day, the eruption was of the same character and had extended over the trunk and begun to appear upon the extremities. The child nursed well, and there was nothing alarming in its condition. On Wednesday, the 4th day, the eruption covered every part of the trunk and extremities, and was beginning to fade from the face and neck. The trunk was of a scarlet hue with white spots interposed here and there. I had as yet no doubt in regard to my original diagnosis, rubeola, and regarded the prognosis as favorable. But on Tuesday, the 5th day, the appearance had changed, the eruption had entirely disappeared from the face and it had a puffed appearance. The trunk was of a deep scarlet color, the extremities—below the elbows over the arms, and below the knees on the legs—were studded with whitish looking prominences resembling arrested or undeveloped small-pox patches, some of them umbilicated, many of them had black spots in them. These prominences or pustules were more numerous upon the hands and feet than any where else. There were also upon the feet some large bullæ. Notwithstanding this very grave state of affairs the child had a good pulse and nursed well and rested well. I omitted to state that there were some petechial points upon the forehead and neck. On the 6th day, Friday, I asked Dr. Drury to see the case. The conditions were very much the same as upon the day previous, except the scarlet color had faded some; the petechial spots about the face had increased; the child had rubbed the epidermis off of the cheeks. The face was more puffed and the eye-lids had swelled, closed, and the discolored pustules had increased; there also existed upon the abdomen sudamina; still the child nursed well and the pulse was good, though he was restless and did not sleep well. On the 7th day, Saturday, the same conditions obtained, only they had become more pronounced; the face had swelled still more, the hemorrhagic points about the head and neck had increased; the dark colored prominences over the extremities had increased; the trunk had changed to a dark scarlet hue; the pulse had become very rapid and weak, and the respiration was hurried. The child died Sunday morning, the eighth day, from the inception.

DR. CLEVELAND, in conclusion, said he would call attention to one point regarding vaccination. One of the children was said to have been vaccinated successfully with points. On further interrogation the parents said that the process of vaccination was very strange. There was no evidence of its taking till after fourteen days when a large mulberry spot appeared. He had no doubt other physicians had the same experience; instead of undergoing the proper successive stages of papule, vesicle and pustule a reddish blotch appears on the twelfth or fourteenth day and continues about three or four weeks, which affords no protection against variola. It only serves to deceive the people who take it for granted that the child has been thus properly vaccinated.

DISCUSSION.

Dr. Gustav Zinke said he doubted if this peculiar mulberry-like appearance took place in primary vaccinations. His own wife presented on her arm such a patch, which lasted fully a month after its development; she had, however, been vaccinated before. In fact, as far as his experience went, this peculiarity only occurred in secondary vaccinations.

As regards the difficulty of distinguishing the various exanthematous diseases from each other in their early stages or their complications among each other, the speaker could speak from actual observation. The first case of this nature that occurred to him was a child which he had vaccinated successfully last spring a year ago. It took sick in September with all the symptoms of scarlatina: high fever, reddened throat, hot skin, and a well-developed rash over the whole body. This appeared on his second visit, and his attention was directed to these symptoms by the grandmother of the child, a woman of considerable experience, who also regarded the disease as scarlet fever. On the next day the rash had entirely disappeared, the child looked well, and the speaker was told not to come any more. The day following he was again sent for, when he detected the first appearance of a variolous eruption. The disease became confluent and terminated fatally.

On Madison street, a little street in his neighborhood, he had seen not less than *twenty-eight* cases, where it was difficult to say whether the disease would prove to be measles or scarlatina before the variolous eruption appeared. Often the pustules occurred quite suddenly. None of these cases, however, had been vaccinated.

Dr. Carpenter had observed these red marks several times, in one case where it was primary, an infant four months old. The virus used was bovine points and was said to have been fresh.

Dr. Wallingford had observed these mulberry spots several times, but attributed this phenomenon to the age of the virus used. An infant that had presented this appearance after being vaccinated with virus not very fresh took properly after another vaccination with other virus.

Referring to the uncertainty of the character of the eruption, the speaker remembered one case, where, on his first visit, there was no eruption, no coryza, but a history of malaria, so that he considered the disease malarial fever of a bilious character. On the second day he observed the eruption peculiar to measles, distinct and disseminated over the whole body, so that he unhesitatingly pronounced the disease measles. On the third day there was no sign of measles, but a variolous eruption on the body in the papular stage. Fortunately the disease was very slight, not more than three or four papules appearing over the whole body. The patient had been vaccinated several times but not with success as was evident from the absence of any scar.

Dr. Thrasher said he had also observed these mulberry patches, but invariably after the use of bovine virus. He considered the virus fresh because it was used on the same day when it was brought from the vaccine farm. He never had this result from any except that here propagated and distributed in quill form. A number of these cases were primary. The speaker did not consider an erythema in the first stage of variola anything uncommon. In fact he looked for it in many cases. He was called to see a little girl, who had a temperature of 105°, a sore throat and her extremities well covered with a erythematous eruption. In forty-eight hours the blush disappeared and the variolous eruption broke forth.

Tetanus from Injury by Toy-Pistol.—Stretching of the Median and Ulnar Nerves.—Death.

Dr. Ransohoff, in mentioning the following case of tetanus, remarked that three and a half years ago he reported a case of tetanus relieved by nerve-stretching. As he believed in also recording unsuccessful cases he would now report one where death was not averted by this means. On the last 4th of July a boy, fourteen years of age, shot himself in the palm of the hand with a toy-pistol. Suppuration set in and the hand was poulticed by the physician who had been called in attendance. On the eighth day the physician left the city, and on the ninth day (July 12th) the speaker was called in because the boy complained of soreness in the throat. He found the patient with marked symptoms of tetanus—opisthotonus and convulsions. To relieve the latter he administered ten grain doses each of hydrate of chloral and bromide of potassium to be repeated every hour day and night. Convulsions set in more frequently every few minutes on the third day (from the time of Dr. R.'s attendance) so severe that he struck the footboard of the bed with his feet and caught his tongue between his teeth. The speaker then concluded to resort to nerve-stretching and called Drs. Walker, Kebler and Cilley to his assistance. The median and ulnar nerves of the left side were both stretched without difficulty, no other structures, as arteries or veins, interfering. The operation was not more than of ten minutes duration. After this the patient slept for one hour and had no convulsions for eight hours. Motion and sensation were both in abeyance from the time that the patient came out from under the anæsthetic, unlike the first case above referred to where motion and sensation were both completely restored. For six to eight hours this patient was very comfortable, fluid nourishment could be given him, but suddenly the convulsions returned most violent. To relieve his sufferings hypodermic injections of morphia were made but in less than half a minute after an injection he would become again aroused by a convulsion. His powers began to fail and he died about the fourth day, the temperature being 107°.

In the first case reported the speaker had stated that the majority of cases would be saved by nerve-stretching, his being the fourth out of six that had recovered. From the cases he gathered since he found that from twenty to twenty-five per cent. have recovered even without other treatment. Although at present not so great hopes were entertained from this operation as at first, nevertheless he should perform this operation again if placed in similar circumstances if it were only for the temporary relief derived.

DISCUSSION.

Dr. Muscroft said he had never been able to save a case of acute tetanus. As the fatality is so great he thought the best treatment would be exsection, or, if that should be impracticable, amputation of the part before the trouble sets in in this sort of an injury. Nineteen out of twenty cases of accidents by the use of the toy pistol result in tetanus. The speaker reported the first case in this Academy occurring in this city from the use of this dangerous toy. He had seen another case in consultation where he proposed nerve-stretching or amputation, but neither was permitted and the patient died in spite of large doses of physostigmata, chloral and bromide of potassium. The patient slept comfortably for some time after the use of the latter agents but the spasm returned and he died of suffocation. In the last case the tetanus came on in a week after the injury had been received and the physician was not called until the spasm had set in. It was a question to his mind why an injury from this particular kind of a pistol produced tetanus more than any other fire-arm.

Dr. Cleveland said he was startled at the high death-rate as given by the previous speaker. He had seen several cases of injury from the toy-pistol where tetanus did not occur. He immediately cleaned out the wound and cauterized it with fuming nitric acid. The little particles of the explosive composition are blown into the flesh and it is frequently a difficult matter to remove them.

Dr. Muscroft replied that Dr. Cleveland did the next best thing by cauterizing the wound, thereby protecting the surrounding tissues, but the difficulty lies in getting these cases early enough to protect the system from the deleterious action of the composition.

Dr. Culbertson, in answer to Dr. Muscroft's question what was the dangerous element in these explosives, stated that it was now understood that mercury contained in the fulminating powder was the cause of this accident.

Dr. Judkins said that reports last year had shown the mortality very heavy in Boston and Baltimore, so that the Legislature of Maryland was induced to pass a law interdicting the sale of the toy pistol.

To Get Rid of Mosquitoes.—It is stated by a writer in *Nature* that quassia water is a protection against the attacks of these sirenic insects. He tried a weak solution on a child's face, which had become grievously tormented, and it worked to a charm, preventing the gray backed suckers from dining on the baby's rosy dimples. All that is necessary is to moisten the face with the solution of quassia. It should be weak for this purpose, for a strong solution of quassia is an active poison to flies, sugar being mixed with it to attract them; but it is not powerful enough to kill the insects very quickly.

Selections.

MEDICINE.

Relation of Mould Fungi to Disease.—Among the many sciences intimately connected with medicine, botany has always held an important place, as furnishing a large portion of the materia medica. In recent times this science has become still more closely allied to medicine, not so much because it has afforded new means of *curing* disease, but because of the discovery that important factors in the *causation* of disease are to be derived from the vegetable kingdom. This refers to the growth upon or within the body of certain of the lowest forms of vegetable life to the detriment of the individual.

It is a fact familiar to all that most plants, in contradistinction to animals, are able to build up complex compounds from the comparatively simple ones existing in the earth in which they grow, and in virtue of the presence of green matter in the leaf, the so-called chlorophyll, are enabled, under the action of light, to decompose the carbonic acid of the air, retaining the carbon and setting free the oxygen.

This property belongs *only* to plants having chlorophyll. Those having no chlorophyll cannot elaborate from the earth and air the necessary compounds for their maintenance and growth, but can only draw their nourishment from organic matter already formed. Thus they occupy the same relation to the organic world that animals do, in that they break up complex compounds, absorb oxygen, and give off carbonic acid. In other words, chlorophyll plants make fuel; plants without chlorophyll and animals burn fuel.

Among the plants without chlorophyl is the lowest order of the great class of the cryptogams; namely, the *fungi*. Of the fungi, two subdivisions are of interest in medicine; a lower one, representing the lowest of all vegetable life, the *bacteria*, a name at present familiar to all; and a higher variety, the *mould fungi*.

Of the very important division, grouped under the general name of bacteria, nothing will be said here, but attention will be paid only to the comparatively unimportant group, from a medical point of view, the mould fungi.

It is not proposed to enter here into full details of mould diseases, but simply to consider whether *at all*, and if so, in *what* cases, the mould fungi stand to disease in the relation of cause and effect.

Before considering the characteristics of mould fungi, a word or two is necessary in explaining the meaning of terms applied to plants which can live only at the expense of matter already formed. Such live either upon dead organic matter or upon living organic matter. On dead organic matter they cause the chemical changes grouped under the terms fermentation, decomposition, and putrefaction; processes which are constantly going on under our observation; they are then termed *saprophytes*.

On living matter they exist at the expense of the body in which they reside, and are then termed *parasites*. It is further quite obvious that a parasite may on the one hand exist without doing any harm to the host, beyond the small amount of nourishment withdrawn, or on the other hand that it may excite disease, either in virtue of its own presence or from some secretion from itself. Such parasites are termed *pathogenic*.

The universal existence of moulds is known to all. In damp places, on decaying fruit, on sweetmeats, bread, cheese, and various other articles, they are so familiar in producing the delicate white or green covering that no further description of their gross appearances is necessary.

That such moulds are saprophytes, that is, that they live on dead organic matter, requires no proof for its assertion. The important point is, are they parasites? Do they live upon other organisms at the expense of those organisms? further, do they multiply in those organisms, and by so doing cause disease, that is, are they pathogenic?

The answer to the first question, which is, are mould fungi parasites, depends simply on observation, whether or not they have been seen growing upon or within the human body. It is a fact that their presence has been observed in these situations.

A positive answer to the question whether they are pathogenic cannot be so readily given. For, given a disease and with it a parasite, one is by no means justified in assuming that the parasite and the disease stand to one another in the relation of cause and effect. The parasite may be simply an association. Hence parasitismus does not imply pathogenesis.

In order to determine beyond all doubt, whether in a given disease a parasite, and in the present consideration this mould fungus, is the causative agent, the following conditions must be fulfilled.

With a certain disease must always be associated the same fungus; and the fungus should have reached a development and numerical increase sufficient to account for the clinical symptoms.

The fungus when inoculated in another portion of the same individual or in another individual, or where this is impracticable, in one of the lower animals, should produce the disease in question. Of course failure of the inoculation in a lower animal ought not *necessarily* to be taken as proof of the non-pathogenic nature of the fungus experimented with, as the susceptibility of the animal may be less than is the case in man or be wholly wanting.

A few technical terms, which must of necessity be used in discussing a question like this, may be briefly explained. Aspergillus and penicillium denote two great families of mould fungi, distinguished from one another, in the main, by difference in their fructifying organs. The *mycelium* of the fungus corresponds in a general way to the roots of the more highly developed plant, and consists of a series of delicate, branching, glistening, for the most part homogeneous, fibres.

The *spore* is to the fungus, what the seed is to the higher plant, it is that part from which a new fungus can develop; like the seeds of other plants it is not readily destroyed, and like them retains its power of producing a new fungus long after the fungus on which it grew has perished. The spores develop either in special organs, on stems growing from the mycelium, or they may arise from the mycelium itself, by the process of division. In the latter case, the fibres forming the mycelium present a series of annular constrictions, at regular intervals, suggesting the appearance of a rosary. The spores, when completely formed, separate from the parent stem in the form of oval or round glistening bodies, so small that they can only be seen with a microscope.

Probably most mould fungi can produce spores in either or both the ways suggested; the variation being due to the influence of the surroundings.

Mould fungi, whether in the natural or artificially cultivated, grow best on acid substances. They require moisture and oxygen. Some varieties, like penicillum, grow better at the ordinary temperature, whereas aspergillus develops more quickly at a temperature corresponding to that of the human body. These factors are of importance in considering the possibility of the growth of moulds in the interior of the body. Nägeli, a well-known botanist of Munich, in his recent work on Lower Organisms, goes so far as to say that it is impossible for mould fungi to grow within the substance of organs, as there exists no free oxygen in these situations. This point will be again referred to.

For those diseases of man with which mould fungi are constantly associated, Virchow, many years ago, proposed the term, "*mycoses*." The mycoses which up to the present time have been observed, are, certain affections of the epidermoid structures, skin, hair, and nails; of the external canal of the ear; of the foot, endemic in parts of India; of the mouth, known as aphthæ. Further must be considered the growth of mould fungi in certain organs of the body, of which the lungs are the most frequent seat, and finally a disease discovered and described only recently in man, the so-called actinomycosis.

Of the diseases included in the above category those of the skin, hair, and nails are the most frequent, and their true nature has been the longest known. They are: Favus, producing the characteristic yellow crusts on the hairy scalp; Herpes tonsurans or ringworm, with its characteristic red rings on various parts of the body, and when affecting the beard, known as Sycosis parasitaria; Pityriasis versicolor, causing the peculiar brown appearance of the skin of the chest; and lastly, the affection of the nails first described by Meissuer and Virchow, and termed by the latter Onychomycosis.

All of these diseases are characterized anatomically by the growth of a mould fungus either between the cells of the epidermis or in the shaft of the hair, or in both places combined. In the case of the nails between the layers. The fungus is represented by a well-marked, branching mycelium, producing its spores by simple division and never by special organs of fructification. The fungus has in each case received a name, not, unfortunately, in accordance with its botanical characteristics, but simply an arbitrary one. The favus fungus is called Achorion Schönleinii, Schönlein having first discovered it; herpes tonsurans fungus, Trichophyton tonsurans; pityriasis versicolor, Microsporon furfur. These names, given about forty years ago, are still retained, simply because botanists have been unable to give them better ones. All attempts to classify these fungi, that is to place them in distinct species, have failed. Attempts at their artificial cultivation have either, on the one hand, given negative results, or on the other such varying results that an admixture of other fungi from the air during the process must be supposed. This at least is certain, that by artificial cultivation these fungi have never developed fructifying organs, by which means alone botanists can classify them.

Inoculation of the fungi has failed to produce a like disease, and on the other hand inoculation of various ordinary mould upon intact or macerated skin has given negative results so far as producing one of these skin diseases. It is true that Hebra, by the latter means, was at times able to produce a disease resembling favus, and at another time herpes tonsurans, and occasionally a very imperfect form of both on the same individual; but these experiments lack confirmation.

A pathologist in Berlin, Grawitz, after numerous unsuccessful attempts in cultivating the fungi of the skin affections, thinks that he has in some cases been successful, and finds further that the specific fungus is one and the same for all, and considers it to be Oïdium lactis. But by inoculating Oïdium lactis he was never able to produce anything more than a few herpetic blisters. His conclusions have not been confirmed, and should be accepted with extreme caution.

That these affections in the natural condition show a tendency to contagion of a varying degree is undoubted. Favus, in spite of the luxuriant development of spores, has but little tendency, herpes tonsurans on the other hand a far greater proneness. Although the diseases cannot be induced artificially, nevertheless experience shows positively that, under conditions not understood, transmission from individual to individual is possible.

In *résumé* it may be said, that in association with a limited number of diseases of the skin a more or less luxuriant growth of mould fungi has invariably been found. As the growth of the fungus increases peripherally, the disease spreads. Destroy the fungus and the skin returns to its normal condition. Further, that although the crucial test of confirmation, inoculability, is wanting, yet this negative result is not wholly sufficient to exclude the idea that the fungus and the disease stand in the relation of cause and effect, for the reasons, that the method of inoculation may have been an improper one or that there may have been a want of susceptibility on the part of the individual inoculated. For it is a matter of experience that there exists a proneness in certain individuals to repeated attacks of these skin affections, and apparently an entire immunity in others in spite of exposure.

In the disease of the nails called by Virchow onychomycosis they become thickened, claw-like, of an opaque-yellow color and very friable. Associated with it is found a development of mycelium and spores between the lamellæ. The fungus has been regarded as identical with the favus fungus by some, and with the herpes fungus by others. But the same absence of positive knowledge exists in connection with this fungus as in those previously mentioned, and whatever has been said of those applies to this also.

Whether in the dermatomycoses in general the fungus can gain a footing and grow on a normal skin, or whether it requires some abnormal condition for it to flourish, is not known.

Related to these diseases is that affection of the external auditory canal known as Otomycosis. Instead, however, of the fungus being limited to the layers of the epidermis and consequently not apparent to the naked eye, it develops an abundant growth above the level of the skin lining the canal, often filling the canal with a luxuriant mould, which is readily recognized as such by the naked eye. Further, the mould develops fructifying organs; in this way its species can readily be made out and has been found in all the observed cases to be an aspergillus.

Associated with this growth is always an inflammation of the external meatus of a varying degree. Whether the fungus is the cause of the inflammation or simply a growth occurring secondarily on a seat made favorable for its development by a preëxisting inflammation is not known. Most aurists who have written upon the subject think the fungus the cause of the inflammation, though the reasons given are not convincing. Others have noticed a growth of fungus in cases where an inflammatory process had been observed to exist in the ear long before the fungus appeared.

There is as yet too little positive evidence to enable one to come to a conclusion as to the pathogenic or non-pathogenic character of the fungus in this disease.

Another disease which may be briefly mentioned in connection with the external portion of the body is one occurring in certain parts of India and known as Madura foot or mycetoma. It is of a very chronic nature, and is characterized by the growth of numerous nodules in the tissues about the heel, which break externally, discharging a thin, discolored fluid, and in some cases peculiar black lumps. These black lumps present the characteristics of a mould fungus which has received the name of Chionyphe Carteri. Carter, who has written the best description of the disease, thinks that it is in all cases due to the growth of this fungus, which gains entrance to the tissues of the heel through some slight abrasion, extends deeper and deeper, with progressive destruction of the preëxisting tissues, together with the growth of the above-mentioned nodules, which in turn break down, and through the external opening the discharge occurs, as already stated.

The black fungus has not been observed in all cases even by Carter himself, but where this is absent there are to be seen peculiar, pale masses resembling fishroe, which Carter considers to be a degenerated black fungus, but which numerous authorities, and among them no less a one than Ferdinand Cohn, state to be no fungus at all, though they all agree that the black masses are a fungus.

If the numerous reports of the English army surgeons, stationed in various parts of India, in reference to the presence or absence of the black fungus in this disease, are to be credited, then one is justied in saying that the association of the fungus is not sufficiently constant to lead one to the belief that the Madura foot is a *fungous* disease.

An affection of the cavity of the mouth, frequently observed in bottle-fed or weakly children, and occasionally in adults weakened by disease, is known as Thrush. It presents a series of snow-white patches upon a more or less inflamed mucous membrane, on the removal of which a loss of substance may or may not be observed. These patches are shown microscopically to be made up of desquamated epithelium and an abundant development of mycelium and spores. This fungus has received the name of Oïdium albicans, and probably belongs to the moulds.

According to Grawitz, who has cultivated artificially the thrush fungus, it is not oïdium albicans, but a fungus called mycoderma vini, which is not a mould but a yeast fungus. Grawitz claims to have succeeded in producing genuine thrush in very young animals by feeding them with milk containing mycoderma vini. But this cannot be regarded as conclusive proof, for Grawitz fails to give satisfactory evidence that his cultures contained no other spores than those of mycoderma vini.

Thrush is usually regarded as a harmless disease, and an eminently localized one. But Zenker, a thoroughly trustworthy German observer, noticed in a case of thrush of the mouth small abscesses in the brain, in which were mycelium and spores similar to those found in the mouth. He is inclined to think that they represent a metastasis through embolism from the primary disease in the mouth. This observation, made twenty years ago, has not been confirmed by similar cases.

In regard to the relation of the thrush fungus to the disease, one can only say, as in the case of otomycosis, that the fungus and the inflammatory process are associations. It is not proved, on the one hand, that the fungus is the cause, the inflammation the effect. Nor can one say, on the other hand, that the inflammation is primary, and that the fungus simply finds a favorable seat for its growth upon the dead products of the inflammation.

In reference to the growth of mould fungi within the body, apart from the disease actinomycosis, a few words only are necessary. They have been occasionally observed growing in the bronchi, and more frequently in cavities of the lung resulting from necrosis, and have received from Virchow the names of broncho- and pneumomycosis respectively.

The usual fungus is an aspergillus, more rarely a mucor. The mycelium grows in the necrotic tissue lining the cavity, and sends its fructifying organs out into the free cavity. It rarely reaches an extensive development, and is never found where there is any putrid necrotic process, but only in connection with bland processes. Apparently the putrid change, with its associated development of bacteria, prevents the growth of moulds.

But it must not be understood that in every case of cavity formation in the lung where there is no putrescence mould fungi grow; for in spite of such favorable conditions they are but rarely found; perhaps, as Recklinghausen once suggested, because there is too much secretion present to allow them to get a foothold.

That the development of mould fungi in the lung is ever anything more than an association with the necrotic processes, and not their cause, has never been claimed by competent observers. They are not, then, pathogenic when in this situation. In fact, it is very questionable whether they are even parasites, and one might suggest with great semblance to the truth that they are simply saprophytes, that is, that they exist on the dead organic matter in the lung and not at the expense of the living tissue.

Perhaps the most important affection to be considered in the category of the mould diseases, both from its fatality and from the fact that the causative agency of the fungus is better marked, is one which has been recently described, the so-called actinomycosis, which is closely allied to, and probably identical with, a disease occurring in cattle.

Among the diseases of cattle is one characterized by the growth of one or more tumors from the alveoli or spongy portion of the jaw-bone, usually the lower jaw, which, after a long period of time, may reach the size of a child's head, having in the meantime destroyed the bone. The tumor is of a soft consistency, on section shows a grayish-white, juicy surface, spongy structure, with at intervals small, yellowish points resembling small abscesses. Microscopically the structure is that of a granulation tissue. These tumors had been known to veterinarians under the names of scrofula, or sarcoma, or osteo-sarcoma.

In 1877, Bollinger, a veterinarian in Munich, on examining nodules similar to those described, found that the small yellow masses already referred to were not fat, as had been supposed, but that they were made up for the most part of an abundant development of a fungus, of the nature of which he knew nothing. He further observed that this fungus was a constant association with all the tumors. The specimens of the fungus were referred to Harz, a botanist in Munich, who stated that it was unlike anything that he had seen before, but was inclined to regard it as a mould fungus. He suggested the name actinomyces for this, apparently, newly observed plant, *aktin*, *aktinos* being the Greek for *ray*, and was applied to the fungus because the arrangement of its spores was in characteristic clusters of a rosette form, radiating out from a central point, the spores themselves being of a pear shape, large, homogeneous, and glistening.

This fungus had been previously observed in connection with the same disease, though not in all cases, by Perroncito, of Turin, who did not publish his results till later; also by Hahn, who failed to follow further his discovery, and quite recently another Italian, Rivolta, of Pisa, claims that he discovered the fungus, and published his results several years before Bollinger. To Bollinger, however, belongs the credit of having shown the constant association in cattle of the fungus and the tumors in the jaw, also in similar tumors developed secondarily in other parts of the animal.

Johne, a veterinarian in Dresden, deserves the further credit of having proved, by successful experiments of inoculating the fungus in healthy cattle, and thereby producing similar growths, that the fungus and the disease stand to one another in the relation of cause and effect.

The first published cases observed in man were by James Israel, a physician in Berlin, in the year 1878.

A woman of thirty-six presented herself at the Jewish hospital in Berlin, with abscesses in various portions of the external surface of the body. These were opened at intervals, the contents of all being of the same character, namely, a thin, foul-smelling pus, in which floated peculiar sulphur-yellow bodies, about the size of barley grains, and of a cheesy consistency. These bodies were examined microscopically by Israel, and his description corresponds to that given above of the fungus in cattle. He considered them to be a fungus, but not being a sufficient botanist to classify them, referred the matter to Ferdinand Cohn, who occupies the first rank as a mycologist in Germany. The latter was unable, however, to give any opinion in regard to the pear-shaped spores. This first case of Israel's died in the course of a month, under symptoms of extreme marasmus with occasional chills. At the autopsy were found abscesses in the lungs, spleen, kidneys, liver, and intestine, all showing clumps of fungi like those already described.

A few months later Israel had the opportunity of observing two other cases, in a man of thirty-six and in a girl of nine. In each there was an abscess in the neck, beneath the jaw, in the neighborhood of carious teeth. The contents of the abscesses was a foul pus, with the characteristic sulphur-yellow bodies, the actinomyces clumps. These abscesses refilled and discharged yellow bodies, but finally healed under the use of carbolic acid injections.

Israel was inclined to regard his first case as a form of chronic pyæmia, due to the growth of this fungus, primarily in the lung, secondarily in the other organs mentioned. He made no attempts to inoculate the fungus on lower animals, nor was he aware, apparently, of the results of Bollinger's and Harz's work already published.

Shortly after this publication Ponfick, of Breslau, reported cases coinciding wholly with Israel's so far as the presence and appearances of the fungus were concerned, but differing from the former cases in that the most striking characteristic, in certain ones, was an extensive prevertebral abscess with partial destruction of the vertebræ, associated with the formation of nodules in other parts of the body, in the heart in one case.

Ponfick, who had already had the opportunity of observing actinomycosis in cattle, saw, or at least says that he saw, that the two diseases were similar, and that there existed an actinomycosis hominis as well as an actinomycosis bovis. He cultivated the fungus, and had positive results in inoculating the fungus in healthy cattle. To him probably belongs the credit of recognizing the identy of the diseases in man and cattle. Up to the present time seventeen cases have been observed in man, and from these the following short *resumé* may be made:

The disease occurs in two forms, in a local or external form, and in the general or internal form.

In the localized form the first appearance is that of an infiltration in the neighborhood of the lower jaw externally. This very slowly assumes the form of a nodule, is circumscribed, rather dense, and scarcely, if at all, painful. After a considerable interval the nodule becomes softer, fluctuates, and is then usually opened by the surgeon. The contents is a purulent fluid containing the sulphur-yellow bodies, which are the fungus. The disease does not heal spontaneously as a result of the opening, but continues to discharge the fungus and pus, the cavity all the while enlarging. If, however, the cavity be injected repeatedly with a five per cent. solution of carbolic acid, it soon ceases to discharge the fungus, and rapidly heals. Such a result occurred in eight of the seventeen cases. In these eight cases carious teeth were present, and in at least three cases the abscess was directly connected with the bone.

In the generalized form of the disease one has to do with the development of the actinomycotic nodules in the interior of the body. Though the exact starting-point of the disease in such cases is doubtful, yet it is probable that in certain ones it is primary in the neighborhood of the jaw, extending by vessels or by gravitation to deeper tissues. Further, it is probable that in certain of the generalized cases the lungs are the starting-point, the fungus gaining entrance through the bronchi. Finally, in a third series, prevertebral abscesses with caries of the vertebræ have been the principal characteristics.

Secondary to these may be found nodules in the pleuræ, heart, spleen, kidneys, or subcutaneous tissues.

The first step is the formation of nodules of spongy connective tissue, the so-called granulation tumors, which later soften and either break externally or the softened products gravitate. By this means the process extends and a corresponding destruction of tissue occurs; the death of the individual resulting from marasmus.

Wherever there exist these nodules, the fungus is constantly found in association; wherever the fungus is present it is always surrounded by the new growth. The extension of the disease is dependent upon the extension of the fungus—and in animals inoculation of the fungus produces the disease.

With regard to the means of introduction of the fungus within the body all is theoretical. It is probably taken in with the air or food, and so long as it comes in contact with only healthy tissues can gain no further entrance. Probably an abnormal condition, like that of a carious tooth, or some abnormality of the tonsils or respiratory surfaces, affords an opportunity for the fungus to reach the deeper tissues, there to develop as stated. The disease has only been observed in herbivora and omnivora. In carnivora it has not only never been seen, but all attempts to inoculate it have failed. This fact has been used as an argument in favor of the idea that the fungus is taken in with vegetable food.

The disease actinomycosis fulfills the necessary requirements for enabling one to say that the fungus is its cause, and further that the fungus is a specific one. Whether, however, the botanists will in the future continue to consider the actinomyces as a mould fungus, remains to be seen. At present, comparatively little is known of its botanical characteristics.

The question which will finally occupy attention is with reference to the results derived from the direct inoculation of the lower animals with various mould fungi. As already stated, Nägeli advanced the idea that it was impossible for mould fungi to grow within the tissues of the body, as they required free oxygen for the development. That this is an error will be shown by what follows.

In 1870 Professor Grohé and his pupil, Block, injected into the jugular vein of rabbits spores of the common moulds, penicillium and aspergillus. The animals soon showed evidence of severe illness, and died in from thirty to thirty-six hours. The lungs, heart, liver, kidneys, spleen, mucous membrane of the intestinal tract and muscles were found to be thickly studded with white or yellowish-white nodules about the size of a pin's head, looking to the naked eye like tubercles. Microscopically each nodule was found to be made up of a development of mycelium, surrounded by cells in fatty-granular degeneration. When injections of spores were made in the carotids, similar nodules were found in the brain and eye. Thus it was shown that mould fungi could rapidly develop in the internal organs of the body, cause necrosis in their neighborhood, and death of the animal. Grohé termed this condition "acute general mycosis."

The positive results of Grohé's experiments excited great interest, partly because it had been thought that moulds were very harmless, partly on account of the universal prevalence of moulds and the possibility that after all they might be important factors in the causation of disease.

Many experimenters repeated Grohé's inoculations, but invariably without success, nor did Grohé himself attempt to carry out further his investigations.

Among the unsuccessful experimenters was Grawitz in Berlin. In thinking over the subject he came to the following conclusions: That inasmuch as moulds grow best on a solid substance of an acid reaction, and whereas in the blood there exist the opposite conditions, fluidity and alkalinity, therefore the failure of development must be due to the sudden transition of the mould to a medium not suitable for its growth. He further thought that it might be possible by cultivation to gradually acclimatize the moulds, so that outside the body they would live in an alkaline, fluid substance like the blood. This he attempted with penicillium, and after twelve to twenty cultivations succeeded in getting a mould, which he considered to be penicillium, to grow luxuriantly in an alkaline fluid at a temperature similar to that of the body.

On inoculating rabbits with the spores of this acclimated mould, the animals died, presenting the same symptoms and anatomical appearances as did those of Grohé.

Grawitz then published it as a proven fact that penicillium, the most harmless and universal of moulds, might, by cultivation, be converted into the most virulent pathogenic organism.

Unfortunately for Grawitz's theory, he neglected two important precautions in his experiments. In the first place he did not take pains to keep the cultivation free from admixture with other mould fungi from the air, and in the second place he neglected to further cultivate, outside the body, the mycelium found in the organs of the animals, so as to bring the fungus to fructification and thus determine whether the final fungus was the same penicillium which he started with.

Grawitz's theory has been overthrown by Koch's assistant, Gaffky, and by Proffessor Lichtheim, of Berne, who have shown: Firstly, that penicillium cultivated purely and inoculated is innocuous; secondly, that certain mould fungi, aspergillus fumigatus and flavescens, *without any acclimitisation at all* are capable of killing animals when inoculated, in the same way, and with the same anatomical appearances, as Grawitz had thought could only follow the inoculation with acclimatized fungus. Further, that the mycelium taken from the organs of dead animals and cultivated, always produced the same aspergillus flavescens or fumigatus.

Lichtheim and Leber have demonstrated that penicillium grows best at the ordinary temperature of the air, whereas aspergillus grows better at the temperature of the body. These observations, taken in connection with the fact that Grawitz neglected to keep his cultures pure, furnish the probable explanation of Grawitz's results. He undoubtedly started with penicillium, but cultivating his successive generations at a temperature of nearly that of the body, the penicillium could not thrive. There being opportunity for the introduction of other fungi from the air, aspergillus for instance, which grows luxuriantly at this temperature, the latter fungus quickly crowded out the penicillium, and so Grawitz's final fungus was a different thing from that which he started with. Consequently his fatal results were not due to an acclimatized penicillium, but to a fungus which had crept in and which in itself was pathogenic.

Gaffky and Lichtheim have proved, it would appear from their reports, that two forms of aspergillus, at least, are *in their natural condition pathogenic,* certainly as far as some animals are concerned. Thus far, however, no disseminated aspergillus mycosis in man has been observed, though it is quite possible that if these fungi were given the same favorable conditions in the human circulation that they have had in animals, a like result might follow.

It may be further stated that Grawitz's results and theories on protective inoculation, derived from experimenting with mould fungi, have also been overthrown by another of Koch's assistants, Löffler.

As yet the experimental study of the moulds is in its infancy, but it is to be hoped before many years more light may be thrown upon their relation to disease.

In final conclusion it may be said, in regard to the relation of moulds in general to disease, that so far as the present knowledge goes there is but one disease in man, namely actinomycosis, which fulfils the scientific conditions necessary in order to state positively that the fungus and the disease are cause and effect.

In regard to the mould diseases of the skin it answers practically to say that the fungus is the cause; scientifically it cannot be said to be proved.

Too little is known of thrush, otomycosis, and Madura foot to allow of any opinion being expressed.

So far as other moulds found within the body are concerned, not only is there no ground for considering them pathogenic, but proof is even wanting that they are anything more than harmless saprophytes.—W. W. Gannett, M.D., in the *Boston Medical and Surgical Journal.*

On the Individuality of Action of the Component Parts of a Drug.

— By Sidney Ringer, M. D., Professor of Medicine at University College; and Harrington Sainsbury, M. D., M.R.C.P., in the *Practitioner.*

The present paper, though complete in itself, is in some respects a sequel to a paper "On the Action of Salts of Potash, Soda and Ammonia, on the Ventricle of the Frog's Heart, read before the Medico-Chirurgical Society, June 13, 1882."

A few words on the subject of the spontaneous beating heart may preface the consideration of the subject proper of this present paper.

A ventricle beating spontaneously may be considered under two aspects. It beats at a certain rate, it beats with a certain force. The tracing which such a heart gives with the apparatus here employed, and subsequently detailed, shows this contraction rate or rhythm, and also by means of the height of the trace the completeness of each individual contraction, if not the force of each contraction. We have, then, these two elements for consideration, "contraction rate," and "contraction height."

In the previously mentioned paper it has been shown that that which underlies and is measured by contraction height must be dissociated from that which underlies and is measured by contraction rate, inasmuch as either may be influenced independently of the other. For the above underlying elements the terms *contractibility* and *excitability* were respectively substituted. The latter term it was found necessary to define, since without such, more was implied than the experiments justified. It has been held and taught that the ventricle of the frog's heart is capable of showing rythmic contractility apart from any nervous structures—still more recently this view has again been called in question; and whilst the property of responding to stimulation by contraction has been limited to muscular tissue, that regulating the supply of stimulation has been assigned to nervous tissue. However this may be, the experiments detailed in the previously mentioned paper do demonstrate the presence of two underlying elements.

Of these, the one answering to contractility is obviously muscular in nature. The other, answering to excitability, is of more doubtful nature; still whether generating the stimulus or not, it apparently has to do with the supply of the stimulus, and in this respect is like nervous tissue. For the sake of simplicity, then, the term nervous may be perhaps applied to that element which underlies contraction rate, though it will be clearly understood that the only grounds on which this name is here applied are those of similarity of function.

Since Dr. Gaskell's paper, more care has been taken in the application of the ligature, so as to secure this as nearly as possible in the auriculo-ventricular groove; in many cases no trace of auricle could be seen below the ligature, yet these ventricles have behaved precisely like those others in which more or less of the auricle was below the ligature. The ligature has in all cases been drawn as tightly as the thread would permit, and it is difficult to conceive that the force employed should be unable to destroy any physiological connection between the parts above and those below the ligature.

We now come to the determination of a point incidentally touched upon in the paper already cited, viz., the determination of the "individuality of action of the component parts of a drug."

The question here to be considered is whether one element or group of elements present in a series of compounds does manifest itself by imparting a uniformity of action to such compounds, or whether each compound acts as a whole, the component elements not being recognizable.

Clinical experience would certainly be to the effect that certain elements and groups of elements do retain their individuality of action to a greater or less degree, but clinical experience is neither simple enough nor definite enough to be able to thus set the question at rest.

The experiments were made with a Roy's tonometer, which, by means of a double cannula, to the end of which the ventricle of the frog's heart is secured, allows of a circulation being maintained through the ventricle by simple syphon action. The heart itself is immersed in an air-tight oil chamber completely filled, a movable bottom, to which a lever is attached, is forced upward by the atmospheric pressure each time the ventricle contracts and empties itself.

The contractions of the ventricle are recorded by means of the lever on the blackened surface of a revolving cylinder. At regular intervals of time, each quarter revolution of the cylinder, the drug was added to the whole mass of blood. The dose was almost invariably the same for each drug, and indeed for each experiment, and was so calculated from previous experiment as to stop the heart within an hour. The reason for this limitation of time was the avoidance by it of the element of exhaustion.

The circulating fluid consists of a solution of 8 grammes of dried bullock's blood in 200 cubic centimetres of a saline solution; this latter consisted of 5 parts of saline solution, ¾ p.c. and 2 parts of water.

Of this blood mixture 100 cubic centimetres (about 3.5 ounces) were taken for each experiment.

The experiments were performed during the months of Februrary, March, and April, 1882.

The common English frog (*Rana Temporatra*) was throughout used.

A heart thus prepared, and the circulation started, soon begins (with very few exceptions) to beat, and as a rule within 10 minutes or so from thus starting it has settled down to a uniform rhythm. The two elements which we then have to note are the characters of each individual beat and the rate of succession of the beats.

The term "inhibition" will be constantly used in this paper. It may be defined as either *complete arrest* of the spontaneous beats, or marked slowing of these, while during the long intervals separating succeeding beats, or during the interval of complete suppression, the ventricle may be still made to contract by elecrrical stimulation. Thus it means arrest or marked slowing of the spontaneous beats, while the ventricle is still electrically excitable.

When the arrest has been complete, the inhibition has been spoken of as complete.

The term "diastolic contraction" will also be frequently employed. It names a form of contraction of a very slow character, which is frequently observed with certain drugs, *e. g.*, the caustic alkalies among others. It is observed during the intervals separating spontaneous beats. This phenomenon has been described in the *Journal of Physiology*, Vol. iii. No. 3, in a paper on the "Action of the Hydrates of Soda, Ammonia and Potash on the Frog's Heart."

The term "persistent spasm" has been used synonymously with diastolic contraction.

Lastly, there remains the term "tetanus" to define. By it is meant fusion; more or less complete, of neighboring beats. If the ventricle of a frog's heart be subjected to continuous faradization, provided the strength of the current, and the rate of interruption be sufficient, there results more or less fusion of adjoining beats. This fusion has been called "tetanus," and when spoken of it has been qualified according as the fusion was complete or incomplete.

Salts of the bases potash, soda, and ammonia were examined, viz.:

The citrates of potash.

The sulphates of the three bases.

The carbonates and bicarbonates of potash and soda.

These experiments were performed on precisely the same plan as those already detailed elsewhere with other salts of the same three bases, and hence are strictly comparable with these latter. The results of both series of experiments will be used here in the consideration of the subject in question.

In the comparison of the action of salts, with another, quality of action comes first, and taking potash salts, the action of the hydrate of potash may be first described. Then the action of the various potassium salts may be compared with this, and the modifying influence, if any, of the acid radical in each case noted.

The actual experiments with hydrate of potassium have been detailed from a previous paper; the effect may be summarized shortly. On rhythm the primary effect was variable, as a rule there occurred increased frequency. The secondary effect was, in all cases, slowing, passing into inhibition, complete, or all but complete. A very prominent feature in the potash tracings was the diastolic contraction, in the latter stages during inhibition the whole course of this form of spasm might be observed.

Comparing the action of tripotassic citrate, a distinctly alkaline salt, with the previous, it is seen that the inhibition is less marked. It is distinct it is true, but the height of the trace is reduced to a much smaller quantity before inhibition occurs than was the case with with potash.

Of persistent spasm the charts show no trace.

Dipotassic citrate, though an acid salt, may perhaps be admitted for comparison, inasmuch as the quantity added was so small that it could not be distinctly made out by test paper whether the blood mixture had become acid.

The results obtained were similar to those given by the tribasic salt; inhibition did occur, but it was less marked than for potash. Here also there was no trace of persistent spasm.

The citric acid series of potassium salts would appear very suitable for testing the influence of the base, since you here have the base presented in three proportions, while the acid element remains a constant. But the strong acid reaction prevents the use of the mono-potassic citrate, the blood mixture becoming distinctly acid with the quantity of salt required to stop the heart.

Sulphat of potash. This salt comes nearer to potash in its effect on inhibition; thus in five out of seven cases inhibition was marked; of the remaining two it was moderate in one, and slight in the other. In three out of the seven cases a slight amount of persistent spasm was observed.

Carbonate of potash, K^2CO^3. This salt is of course strongly alkaline. The tracings obtained closely resemble those of potassium hydrate, marked inhibition being the rule, and persistent spasm coming out strongly.

Bicarbonate of potash $KHCO^3$. The solution of this salt used was alkaline, though less so than the carbonate. The effect on inhibition was well marked, but rather less so than with the carbonate. Thus, out of six cases, in three inhibition was strongly marked; in one it was moderate, in two slight Persistent spasm was much less marked, being strongly marked in one case only out of the six, slight in two others; absent in the remaining three.

All the salts above mentioned, including the hydrate, modified in precisely the same manner the effect of the continuous faradic excitation applied to the ventricle. Thus, whether one started with a strong or slight tetanus, the drug diminished this tetanus from the first, and in the final stages caused actual suppression of the beats during the time of faradization. The potassium salts described elsewhere, viz.: the chloride, bromide, and iodide, inhibited strongly and modified the effect of continuous faradization as above. They did not cause persistent spasm in the doses used.

The salts of potassium, then, hitherto examined, viz.:

The hydrate.

The chloride, bromide, iodide.

The citrates (tripotassic and dipotassic).

The carbonates (the di- and mono-basic).

The sulphate.

Agree qualitatively on the following points:

They arrest the heart in diastole,

They show a strong tendency to arrest suddealy the rhythmic action of the heart *i. e.*, to inhibit.

To render the heart less and less susceptible to the effect of continuous faradization.

On the point of the production of persistent spasm they do not agree; it is, however, to be noted here, that it is the least saturated of the salts of potash which exhibit this spasm in the highest degree, viz.:

The carbonates, and that of the two carbonates, the one containing excess of the acid radical, viz., the bicarbonate, shows the least degree of spasm.

The production of spasm is to some extent a question of dose, and thus a quantity of salt, *e.g.* chloride of potassium, which, added gradually, may cause no persistent spasm, may, if added suddenly, cause more or less spasm. This, however, does not affect the question here considered, for the experiments are comparative, and the readiness with which spasm is excited is certainly modified by the acid radical.

In the case of the chloride, bromide, and iodide group, the salts of sodium, ammonium, and potassium have been compared one with the other, and with regard to quality of action it has been shown that the ammonium salts contrast strongly with potassium salts, in that they do not tend to inhibit, and further in that their action in lessening the effect of continuous faradization is less marked.

The sodium salts of the same group have been shown to stand between potassium and ammonium salts in respect of inhibition, though much nearer to ammonium salts, for their tendency to inhibit is but slight.

With regard to citrates, similar results were obtained; thus citrate of ammonia was shown not to inhibit and not to lessen the effect of the continuous faradization applied to the ventricle. Citrate of soda inbibited but very slightly if at all, and they did not diminish the effect of continuous faradization.

In the present series, one ammonium salt only, the sulphate $[(NH4)^{2}\ So^{4}]$ was examined. This salt was very carefully examined and found to be, if anything, slightly acid, therefore any effects could not result from the presence of free ammonia.

Of six experiments, in no case was there inhibition. In two cases there occurred well-marked spasm as a primary effect; and in five out of the six cases the beats increased in strength, as a primary effect, the tracing showing increased height, and, as a rule, also increased breadth.

As to continuous faradization, there was no diminution of effect; indeed there appeared to to be slightly increased excitability as an early effect of the drug.

The carbonates of ammonium were not taken, on account of their instability and not very definite composition.

Of sodium salts, sodium sulphate did not inhibit the rhythm remaining so long as the beats were visible.

No persistent spasm appeared.

In final stage continuous faradization caused the mounting up of the trace already described as occurring with the sodium salts of the chloride group. With sodium sulphate the effect was comparatively slight, but distinct.

The effect of continuous faradisation was certainly not diminished; if anything, it appeared increased.

Bicarbonate of soda. No inhibition: at any rate in the final stage. The rhythm, in fact, in this final stage being much more frequent than at the start. In four out of the six—preceding this final stage was a stage during which the heart beat in phases.

No persistent spasm appeared.

In the final stage slight mounting-up occurred on continuous faradization. In one case it was very well marked.

Carbonate of soda. No inhibition. Frequency of rhythm, in fact, increased in the end stage.

Persistent spasm very strongly marked.

Slight mounting-up occurred in the end stage on continuous faradization.

With the bicarbonate of soda the effect of continuous faradization became distinctly increased.

With the carbonate this effect was still more marked.

The solution of bicarbonate of soda used was very distinctly alkaline to test-paper, and both this salt and the carbonate in the quantities used very distinctly alkaline to test-paper, and both this salt and the carbonate in the quantities used appeared in the latter part of each experiment to be dissolving the heart to some extent, there being very considerable oozing from the heart; and when removed at the end of the experiment, the heart feeling distinctly soapy.

This is mentioned here because, in spite of very evident changes affecting the substance of the heart, whether of the nature of solution or not, the rhythm still persisted.

Ammonium salts, then, so far as they have been examined, agree in that they do not inhibit; further, they agree in their primary effect, viz.: increase of the force of the ventricular contractions, together with, as a rule, more or less persistent spasm.

Sodium salts agree in their action on rhythm, and also in that with all the salts named; with the exception of the citrate of soda, mounting up occurred in the final stage.

Having compared these qualitatively, it remains to put together the quantities used, and see if these make clear the dependence on the base as the essential factor in the action of the drug. If this be so, and the acid radical do but slightly and unappreciably modify the influence of the base, then, confining one's attention to salts of one base, the quantities required of such to arrest the heart will contain equal weights of the basic element, *i.e.* the quantities will stand to one another in the proportion of the molecular weights.

In the following table of quantities, in the column headed "Weights containing equal quantities of basic element," the numbers given represent either the molecular weight or the molecular weight divided by the number of atoms of base present. This is of course necessary, for weights of say tripotassic citrate and of iodide of potassium, in the proportion of their molecular weights, would contain three atoms of potassium in the former to one in the latter. The salts examined either did not contain any water of crystalization, or this was carefully removed, so that the solution percentage was calculated for the anhydrous salt.

It was attempted to make the sodium series more complete by including the hydrate, but though the rate of dosage was made very small, so as to extend the experiment over a much longer period than in the case of the others, it was found that the heart still became firmly contracted in systole. At the same time the heart oozed very considerably, causing the pen to fall, and giving to the tracing the appearance as though the heart really had gradually dilated. From the tracing, in fact, one would have concluded that the heart did finally pass into a state of diastole.

Quantity Table.

NAME OF SALT.	Weights Containing Equal Quantities of Basic Element.........	Actual Quantities Found in grains
Potassium Hydrate	56	1.35
" Iodide	166	3.16
" Bromide	119	3.18
" Chloride	74.5	2.46
" Sulphate	87—174-2	3.85
Tripotassium Citrate	102—306-3	2.31
Dipotassium Citrate	134—268-2	3.39
Potassium Carbonate	69—138-2	2.0
" Bicarbonate	100	3.25
Ammonium Iodide	145	6.3
" Bromide	94	3.7
" Chloride	49.5	2.93
" Citrate		
" Sulphate	62—124-2	2.93
Sodium Iodide	150	84.24
" Bromide	103	51.7
" Chloride	58.5	29.77
" Citrate		•
" Sulphate	71—142-2	55.7
" Carbonate	53—106-2	22.2
" [1] Bi-carbonate	84	44.74

In the foregoing table the potassium series, as the most complete, may be best considered. If the numbers experimentally found be compared with the molecular weight column, it will be seen that the correspondence is not such as to justify the statement that the potassium element alone rules the effect. With certain of the salts it will be seen that the numbers representing them in either column do stand to one another in somewhere about the same proportion; in other instances the correspondence fails. But just as the correspondence is not sufficient to justify, so the failure of correspondence is not sufficient to the above statement. To set this question at rest a more numerous set of experiments will be needed.

However this may be, one must draw attention to the closeness with which the numbers come out, for this constitutes one of the chief features of resemblance between the potassium salts. Very small quantities are here dealt with, and of course very small errors cause in such cases wide divergence; yet, omitting the hydrate of potassium, which is not ordinarily included amongst the salts of potassium, and which, on account of its extreme alkalinity, does not well compare with neutral salts, it will be seen that 2-4 (3.85) grains will include the extremes of variation. Even these limits include strongly alkaline salts, *e.g.*, the carbonate of potassium and the tripotassium citrate; excluding these, the range of variation is in narrower limits. This qualitative resemblance is the more remarkable when one compares the acid radicals one with the other; thus, between the acid radical of the sulphate and the acid radical in the bicarbonate the difference in quality could hardly be greater. This is, perhaps, still better seen by comparing the hydrogen salts, viz., sulphuric acid and carbonic acid (H^2SO^4 with H^2CO^3). The difference in properties is extreme; yet neutralized potash with these two acids and the resulting salts, the sulphate and bicarbonate, differ so little in their action that, as tested by the ventricle of the frog's heart, the numbers 3.85 and 3.25 represent their activities respectively.

It must be remembered, as has been elsewhere stated, that the proposition is not that one element or group of elements in a drug alone should act, but that such element or group should be capable of more or less individual action, hence, that some degree of uniformity of action should be traceable through a series of salts containing the particular element or group of elements. The salts of potassium, as here tested, certainly seem to bear out this proposition, and side by side with the fact of their resemblance to one another in containing the same element—potassium—must be placed their similarity of action, qualitative and quantitative, whether the conclusion be drawn that such connection is of cause and effect or not.

So far as examined the salts of ammonium and of sodium show a similar resemblance in their action.

The question is one of great importance, and very practical in its outcome, for if such one-sided action do hold, then it is clear that, given the element or elements we wish to use for their special effect, we shall choose for the other side of the drug the least active elements we can find; thus, supposing we have the choice of combining this with sodium, ammonium, or potassium, we shall choose the first. We thus shall have some rule to guide us in the choice of drugs, till actual experiment in each case determine whether the action of one side is all we require, or whether in the particular case in question we need the action of both sides.

It may be mentioned that the metals of the alkalies, sodium, potassium, ammonium, have special importance in that their salts as a rule are soluble, and hence suitable for internal administration.

It is necessary, in order that misunderstanding may not occur, to lay stress on the statement already made, that individuality of action of the component parts of the drug is the sole contention. It is true that the experiments here which give for potassium bromide and potassium bicarbonate almost identical figures, would seem to indicate that one side of the drug alone was active, that the bromide and the carbonic acid formed no part of the characteristics of the drug named. Clinical evidence negatives such a conclusion very decidedly. Thus the bromides of the three bases, sodium, ammonium, potassium, show a similarity of action which can scarcely be explained, excepting on the ground of their containing in common the element bromine. The same may be stated for the iodides, while for the element chlorine, clinical evidence would seem to point to its activity in the compounds of the marsh gas series, to which chlorofrom and bichloride of methylene belong.

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[1] The number obtained here was in four of the experiments with a five per cent. solution, which was substituted for the ten per cent. solution, as all the salt did not go into solution at this concentration. With the five per cent. solution 50 c.c. only of blood were used.

Clinical evidence, then, to go no further, would point to a chlorine, bromine, and iodine action, and, indeed, without such evidence the proposition is an inconceivable one that elements of known activity should, on entering into combination with other elements, exert no influence whatever in modifying the activity of these other elements, and yet retain no individual action of their own—in fact, should simply disappear.

The fact that the heart's action, as here tested, is not capable of demonstrating this other side of the drug action remains. No explanation will be here attempted, though it is clear that a scheme such as the present will obviously fail in demonstrating changes which naturally spread over considerable intervals of time, *e.g.* those of growth and decay, which changes certain drugs affect very markedly. As it fails in this respect it may fail in many other directions, and the recognition of but one side of a drug must be set down to imperfection of the *scheme*.

In consideration of this one-sided action of drugs, the actual results obtained, apart from any theory, must not be lost sight of.

In addition to salts of the three bases, potassium, sodium, ammonium, already examined, others have been added to the series, and these have yielded results in conformity with those already obtained.

For the actual numbers reference must be made to the quantity table. It will be seen that the ammonium salts come very close to the potassium salts, while the gap separating the sodium salts from these two is a very wide one, the latter salts being 10-20 times less poisonous than the ammonium or potassium salts.

Further, as to inhibition, the results here are similar to those already obtained. Potassium inhibits strongly. Ammonium, if anything, appears to act the other way, the contractions growing less and less in value, while the rate of contraction is accelerated.

Sodium is near to ammonium; it has, at any rate in the final strages, very little effect on rhythm.

Potassium therefore stands first—as most poisonous; ammonium next; then, with a wide gap between, sodium.

THE CONTINUOUS LOCAL MEDICATION OF THE LUNGS IN PHTHISIS.—By G. Hunter Mackenzie, M.D., in the *Practitioner*.

Whether we consider the disease of a septic nature, with constitutional symptoms mainly dependent upon simple local suppurative processes following inflammation, or due to the presence of a specific micro-organism, which finds a ready entrance to, and suitable nidus in the lungs, and rapidly develops and propagates its species under favorable conditions, such as stagnant secretions or denuded epithelium, we are forced to the conclusion that in pulmonary phthisis, local treatment of the affected organ must be a desideratum in any effective system of therapeutics. It is, in fact, very neeessary for us to cease giving every attention to the constitution, and bestow more on the treatment of the morbid local condition. "We and our fathers have, indeed, spent much time and labor in theorizing over the abstraction which we call a diathesis or a constitution, in order to account to ourselves satisfactorily for such events as fever, wasting, and secondary disorders arising out of a malady whose earliest structural changes we find in the lungs. But we have not advanced our practical treatment of the disease by such labors. We have multiplied so-called blood remedies, nutrients which add to the pabulum of the chyle, such as oil or chemicals, hypophosphites or iron, which can alter the vital fluids, and in such treatment our aim has confessedly been, not to reach the lung disease, but to obviate by higher nutrition, the wasting effects of the disease."[1]. We all know the success, or rather non-success, which has followed this system.

The facts that the general symptoms during the period of softening in acute phthisis bear a close resemblance to septicemia, that they are directly proportionate, both as regards time and intensity, to the degree of such softening that they can be simulated by local (traumatic) irritation of the lung, and that, in such instances, they subside on the discontinuance of the local irritation, indicate that the phthisical process is primarily of a local nature and essentially one of auto-infection. Local disease, itself the result of local inflammation and infection, is the origin and source of this infection.

The stage of softening in phthisis is widely, and justly recognized as a most dangerous and critical one. From absorption of the disintegrating and decomposing material, most probably with the superaddition of a specific virus, there ensues high fever, with great prostration, often ending in death. It is during this period that the high evening exacerbations of temperature are met with (constituting the so-called hectic curve), not on account of inflammatory complications, but as a result of septic infection. If the patient be piloted through this stage, even though he be landed in a cavity, he yet may be saved. But very early in phthisis, not only has the primary patch of disease to be treated, but the secondary local affections of the lungs also require attention. These are frequently the result, not of direct extension of the phthisical process, but of infection, as indicated by the fact that they are often found at a distance from the original seat of disease, with islets of healthy lung-tissue intervening. This proneness of the lung to infect itself, so to speak, can be readily understood when we consider the free system of inter-communication that obtains in the organ, directly by the air-tubes, or indirectly by means of the blood-vessels and lymphatics. These secondary local affections are mainly observed during the period of softening, and their occurrence adds greatly to the gravity of the prognosis.

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[1] Harveian Lectures on the Prognosis and Treatment of Chronic Diseases of the Chest in Relation to Modern Pathology, 1880, by J. E. Pollock, M.D.

In sheering off from the lines of the constitutional towards the local (parasitic(theory of the genesis of phthisis, it is not necessary to leave out of consideration such predisposing causes as hereditary and scrofula. So far as hereditary is concerned, and as Niemeyer puts it,[1] phthisical parents are not isolated in the fact that their children are very prone to phthisis. The same feature characterizes in an equal degree the children of aged or scrofulous parents, or of those who debauched themselves by drink, vice, or other excesses. Parents weakened from any cause propagate a weak offspring, and ancestral phthisis, scrofula, intemperance, and vice tend towards one common goal in their descendants, viz., phthisis.

Why these and similar conditions of constitutional depravity should conjoin in predisposing towards pulmonary disease, would be beyond the scope of the present paper to attempt to determine with any degree of exactitude. Suffice it, however, to recall to mind the fact that the lungs are cellular organs of extreme delicacy of construction; that they alone, of all the organs of the body, are exposed to direct atmospheric influences; that they are the readiest recipients of the morbific particles which continually surround us, and that, on account of their double circulation and excessive vascularity, they afford great facilities for the transmission of septic material from one part to another. Nor, when inflamed or irritated, can they obtain the rest necessary as an aid to recovery. The lung is thus a *locus minoris resistentiæ.* In the conflict between health and disease it represents, as it were, the outpost of the vital powers, and consequently is the first to be attacked. Need it surprise us that it is frequently the first to yield?

The relationship between scrofula and phthisis appears to be of a very intimate nature. Rindfleisch[2] has taught us that scrofula is a frequent precursor of phthisis, and that it is a disease characterised by cheesy infiltration and suppuration of a mucous membrane, a lymhatic gland, or a joint; hence is elaborated a poison which by absorption induces tubercle. Here again crops up the theory of local infection from absorption of a specific virus. Scrofula predisposes to a peculiar form of inflammation which produces infiltrations and exudations of low vitality, in which a poison is engendered which infects the system.

But whatever may be the method or methods by which the tubercular poison may be produced, there is increasing evidence to show that not only does the individual in whom it is manufactured run the risk of becoming the subject of self-infection, but he may actually infect others. Aristotle and Morgagni believed consumption to be contagious, and the latter narrates that a healthy dog which lapped the sputum of his phthisical master died of the disease. Dr. Callimore records a similar case.[1] Laennec, whilst engaged on an autopsy on a tuberculous subject, was wounded with a saw, with the result that a tuberculous nodule developed at the seat of injury. Reginald Thompson[2] believes that at least a certain variety of phthisis is infectious, and quotes Weber, who records the case of a phthisical husband whose several wives successively fell victims to the disease. Similar cases have been recorded by Murrell, McAldowie, and others. It appears probable also that the increasing prevalence of the disease amongst the natives of Madeira and other health-resorts of consumptives, is owing to some degree of infection.

Recently, however, we have obtained more precise and conclusive evidence as to the existence of a specific tubercular contagion. Tappeiner has shown experimentally that phthisical sputum has some inherent contagion which, when inhaled, induces tuberculosis. He found that this property was absent from the sputa of chronic bronchitis and from the matter of a scrofulous gland. Klebs and Schullur[3] have indicated, and, most recently of all, Koch has afforded microscopical demonstration of the fact, that the tubercular class of diseases is induced by certain micro-organisms which invade the body and multiply in it; further, that the expectation might be entertained of a cure by the employment of means which are calculated to annihilate these organisms, such as the inhalation of creasote water. Are these organisms present in all forms of consumptions? This appears to have been answered in the affirmative by Koch and Cohnheim.[4] Cohnheim claims to have established the unity of the virus, not only in the various forms of phthisis, but also with that met with in scrofulous glands, and in this he is supported by Rindfleisch.[5]

If we accept this view, the evidence in favor of which is being daily augmented, that in phthisis we have a disease due to a septic or parasitic organism which finds ready ingress to the lungs and develops in the pulmonary secretions of its victims, it may be a matter of surprise that phthisis, common though it be, is yet not more widely encountered. For the pulmonary exhalations of a phthisical patient must be literally swarming with these organisms, and the atmosphere of their apartments must be largely contaminated with them. But in accordance with the general law which seems to govern the development of such organisms, a certain amount of preparation on the part of the individual is necessary before his lungs become suitable soil for their development. His receptivity requires cultivation, and this appears to be the *role* played in the process by the so-called constitutional tendency; it acts as the pioneer of the disease, but does not, of itself, induce it.

Now, the bearings of the preceding briefly-summarized views upon the therapeutics of the disease seem clear and decided. Holding the

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[1] Text-Book of Practical Medicine, 1871, vol. i. p. 173.

[2] "Chronic and Acute Tuberculosis," Ziemssen's Cyclopedia, vol. v. p. 634, et. seq.

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[1] British Medical Journal, 1880, vol. i. p. 768.

[2] "The Infection of Phthisis," Lancet, 1880, vol. ii. p. 726.

[3] Archiv. fur Exper. Pathologie, band xi. heft. 2.

[4] Consumption as a Contagious Disease, 1880. Translated by Cullimore.

[5] Op. cit.

doctrine of a local infection, we have necessarily abandoned the view of a general disorder manifesting itself in local disease, and have arrived at the conclusion that this localization is the primary cause of the affection. The indications, therefore, for local (antiseptic) treatment of the lungs in phthisis appear obvious. Not only so, but should the primary (infecting) disease be located elsewhere than in the lungs, to this region must the local treatment be directed. A case, for example, has recently been recorded by Bryant,[1] in which phthisis was associated with and as the result showed, dependent upon, suppuration of the knee-joint, and in which, after amputation, recovery with disappearance of the chest symptoms took place.

But the class of cases to which attention is invited in the present communication is the very large one in which the primary, or infecting, disease is situated in the lungs themselves. In the attempt to carry out local treatment, recourse may be had to surgical means, such as tapping, drainage, and antiseptic injections, and satisfactory examples of this method of treatment have been recorded by Douglas Powell, William, Cayley, and others. It is obvious, however, that this method is applicable to the earlier stages of phthisis, and, under any circumstances, it requires to be very carefully gone about, and carried out under the guidance of an accomplished diagnostician. In the method of the continuous inhalation of such volatile substances as possess antiseptic qualities we have a ready and efficient means of acting on the lung and its contents, and it is to this system to which I now venture to direct attention.

Mindful of the nature of the disease with which we have to cope, our efforts in the direction of local medication of the lung to be effective must be applied with continuity and steadiness, and, if possible, in such a way as not to interfere with the normal method of respiration. I attempted to comply with these conditions by filling the rooms occupied by patients with antiseptic fumes, but without success. The only other method seemed to me to design a medicated respirator which might be carried about and worn by the patient, and so admit of comparative continuity of use. The instrument, which I have designated the naso-oral respirator, was accordingly introduced, and as it is already well known to the profession any detailed notice of its construction and mechanism at the present time is quite unnecessary. It is needless, however, to state that it fulfills conditions which intermittent spraying or the inhalation of medicated steam can never do. The fluids used for inhalation purposes belong to the class of volatile antiseptics, such as carbolic acid, creasote, terebene, eucalyptus oil, etc. In ordinary cases I prefer a mixture of creasote (three-fourths) to carbolic acid (one-fourth, Calvert's No. 1). This is, as a rule, wonderfully well borne, even in the case of children. I have already briefly reported the case of a child, æt., seven, who inhaled pure creasote almost continuously for several weeks without difficulty or inconvenience.[2] This child, it may be added, now continues well and strong, and has not inhaled for over a year. Eucalyptus oil, though bland and unirritating, is very apt to produce sickness and nausea. Toxic symptoms have never been noted in any of my cases after the continuous inhalation of carbolic acid or creasote for prolonged periods, nor have I heard of a single instance of their occurrence in the practice of other practitioners. The urine generally remains free from traces of the antiseptic inhaled, but on two or three occasions very minute traces of carbolic acid have been found after use of this drug.

The results obtained from continuous inhalation in suitable cases—and most cases appear to derive benefit to a greater or less extent—are manifested in a decrease of the pyrexia, cessation of night-sweats, improvement in appetite, and increase in weight. In accordance with Ringer's proposition,[1] we are justified in gauging the measure of progress in phthisis by the thermic curve, though it is fair to note the fact that such an experienced clinician as Theodore Williams[2] maintains that tubercle may form in more than one organ without giving rise to any marked rise in temperature, and, in fact, with subnormal temperature. Experience seems to be rather against the general acceptance of this latter view, and I think we are still justified in considering the fever and emaciation, represented by the temperature and weight, as the true measure of the patient's progress. A case of acute phthisis, illustrated by a complete series of temperature charts, has been recorded by me,[3] in which it was experimentally shown that, on commencing creasote and carbolic acid inhalations the temperature felt, the night-sweats ceased, and the appetite improved, only, however, to return on the discontinuance of the inhalations. On resuming treatment the same results accrued as on the first occasion. This patient is still under my notice, and continues well without requiring to practice inhalation. He has increased in weight fourteen pounds within the last year. I have repeated these experiments in other instances, and carefully noted the results, and am satisfied that antiseptic inhalations, continued for sufficient periods of time, have a decidedly antagonistic effect to the tubercular virus. I am inclined to believe that better results are obtained in what might be called specific cases proper, in contradistinction to chronic inflammatory ones. The former are characterized by all the features of fever, symptoms from which the latter are, to a great extent, free.

But besides the applicability of this system to cases of acute specific febrile phthisis, it seems probable that local medication of the lung is likely to prove beneficial in certain allied conditions, for instance, bronchiectasis. As stated by Theodore Williams,[1] the commonest form of death in this disease is from septicæmia, some of the decomposing material being inhaled into the sound lung and setting up fatal septic pneumonia. What better method of obviating this than by the careful and constant application of antiseptic to the lung?

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[1] Lancet, 1881, vol. ii. p. 743.

[2] Lancet, 1880, vol. ii. p. 890.

[1] The Temperature of the Body in Phthisis, 1873.

[2] Lancet, 1881, vol. i. p. 970, et seq.

[3] Lancet, 1882, vol. i. p. 775.

[2] Brit. Med. Journ., Feb. 26th, 1881.

The contraindications to the employment of continuous medication are laryngeal complications, hemorrhage, and great destruction of lung-tissue. In laryngeal phthisis, strong inhalations have a very irritating and drying effect on the throat, and here it is better to discontinue them entirely, or reduce the strength of the inhalant by the addition of three or four parts of rectified spirits, I have noted an aggravating hemorrhage after the use of the naso-oral respirator, so now I make it a point to have all bleeding stopped before commencing continuous inhalation. The undersirability and inutility of torturing a patient with excessive lung destruction by the superaddition of a system of treatment at the eleventh hour, which, under the circumstances, might prove troublesome, merely require passing notice to be avoided.

In regard to adjuvants, the usual attention is required to cleanliness, ventilation, and pure air. In the prophylaxis, as also in the treatment, of the disease, it is to be borne in mind that the lungs are readily influenced by dampness both of the atmosphere and the soil, more particularly the latter. A moist climate with a high or a quickly-changing temperature predisposes to lung disease. Intense cold, if associated with dryness of the atmosphere, has no predisposing effect. An interesting example of this was Sir Allen Young's Esquimaux, who became phthisical on his removal to a southern clime, and recovered on returning to his native cold. Confinement and sedentary occupations should be avoided, for they predispose powerfully to the disease and aggravate it when existent. In Switzerland, for instance, the mortality from phthisis in the case of those following out-door occupations is of importance. Struck by the fact that tuberculosis is more common and can be more readily artificially induced in herbivorous than carnivorous animals, I have for some time back, forbidden the use of vegetables in phthisis. Lately there has been published a most interesting and valuable report by Mr. Spears (Local Government Board) in regard to the outbreak of woolsorters' disease at Bradford. Knowing the predilection of the anthrax contagion for herbivorous animals, and remembering the experiments of Feser, who found that rats on a flesh diet could not be inoculated with the disease, whilst the same rats, when fed with vegetables, were readily inoculated and rapidly died, Mr. Spears was led to inquire minutely into the circumstances attendant upon the outbreak of the disease in individual woolsorters. He found that, in almost every instance, its development dated from a Saturday or a Sunday, being coincident with, or immediately following, the feast of vegetables and herbs which the operatives generally indulged in on those days. I am inclined to believe that the virus of tubercle has, in the manner of its development, certain resemblance to that of anthrax; at any rate, of this I am certain, that tubercular patients thrive better on a nitrogeneous than a carbonaceous diet. Dr. Clelland[1] also found alcohol, a carbonaceous compound, to be prejudical in phthisis, and he attempts to account for this on the ground that phthisis is a diseases with diminished respiration, and consequently a diminution in the amount of carbonic acid excreted, which becomes aggravated on the administration of alcohol. Some interesting experiments might be performed in regard to this point, but as the paternal government under which it is our good fortune to live has wisely decreed that these shall not be permitted except under troublesome and harassing conditions, their prosecution must be left to the enterprising spirits of other nations. With continuous medication the internal administration of drugs is seldom required. Those who have faith in the efficacy of cod-liver oil may use it, though I believe its indiscriminate and prolonged use frequently does harm by upsetting the stomach, and also by contributing towards the fatty degeneration, the best remedy is the chloride of calcium, given in ten-grain doses in the manner recommended by Sawyer.[1]

TREATMENT OF GONORRHŒA BY INJECTIONS OF SULPHUROUS ACID DILUTED WITH WATER.—For sometime I have treated all cases of gonnorrhœa with injections of sulphurous acid diluted with water, and as the results in my hands have been very satisfactory, I write in the hope that others may be induced to give this method a trial.

I do not offer any theory on the subject, I simply state the fact that I have how treated sixteen cases of gonorrhœa, using no other medicine, and they all returned to duty in an average of six days. I have not observed a relapse or any bad effect. The majority of the cases were second attacks, but those suffering from primary attacks of the disease recovered equally fast.

When I commenced this method of treatment I used much stronger injections than I do at present. I find sulphurous acid one part to fifteen of water quite strong enough for most cases. The rules of treatment I recommend are: place the patient on low diet, and administer injections of sulphurous acid diluted in water one to fifteen, three times a day, no other treatment being necessary. I find it is necessary for the attendant to give the injections, for if it is done by the patient it is never well done, most of the fluid escaping back outside the nozzle of the syringe. The injection should be kept in the urethra from three to five minutes. If the patient complains of much pain, or if there is a tendency to chordee, it will then be sufficient to administer the injections once or twice in twenty-four hours.

If these instructions are strictly followed the purulent discharge will become scanty at the end of the first day, and on the third it will be replaced by a thin, gleety discharge, which also disappears in a couple days. While this watery discharge lasts I usually administer only one injection daily. I find that the first injection frequently causes pain, which is not so much complained of afterwards.

I, therefore, in a few cases give the first injection very much diluted—one in twenty, afterwards using one in fifteen. It is necessary to see that the sulphurous acid is fresh and good before it is diluted to the required strength.—*W. D. Wilson, M.B., in London Lancet.*

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[1] Glasgow, Med. Journ., Dec. 1878.

[1] Brit. Med. Journ. 1880, vol. i. p. 845.

Treatment of Diabetes by Bromide of Potassium.—Before the meeting of the Académie de Médecine a member read a paper on the treatment of diabetes by bromide of potassium. For the last six years the author has made this disease the object of his researches, and during that period he treated fifteen cases. He ignored entirely the classic *regime* of gluten bread, etc., being of the opinion that the disease consisted, not in the presence of sugar in the urine, but in the disorder of the organism, which produced the sugar in excess. Having had a patient who was diabetic, but who consulted him for certain nervous affections, he observed that under the influence of the bromide of potassium, of which he prescribed a drachm a day, the former disease yielded. This case gave him the idea to make experiments on rabbits, in which he produced artifically diabetes in touching the floor of the fourth ventricle, according to the method of Claude Bernard. Four grains of the drug injected into the veins caused the sugar to disappear in each case. Consequently, ever since the author has entirely adopted this drug in the treatment of the disease in question and always with good results. The author further insisted on the necessity of employing muscular exercise of every kind. The use of alkalies, and of iron, arsenic, quinine, according to their several indications, form part of the general treatment. There is one point worthy of remark in the above communication, and that is the complete disregard as to *regime*, which must be beneficial to the patient, in that he is relieved from the irksomeness of observing a certain imposed diet, which soon disgusts him, and what is more grave, keeps him continually dwelling on the affection from which he suffers, a fact which often leads to another malady, which, though less formidable, is not without producing a deleterious effect on the constitution, already weakened by the primitive disease, hypochondria. If further researches verify the efficacy of the observations of the learned author, the treatment of this grave affection will have made a *pas en avant.—Medical Press.*

Asthma Dyspepticum in Children.—Dr. Silberman.—The duration of this malady is never longer than one day resulting in recovery. Symptoms are increased in frequency of respiration, cyanotic discoloration of the face, small, weak pulse, swollen and tender abdomen, extreme collapse, and, generally, coldness of the extremities. One case differed from the remainder in regard to the order in which the symptoms made their appearance. At first there was noticed a rapid and irregular pulse, followed in six hours by hurried respiration, dyspnœa, cyanosis In consequence of these observations, Silberman believes that asthma dyspepticum may be as follows: There is primarily a beginning, paralysis of the inhibitory vagus, fibres, and of the heart. In this manner, despite the increased heart's action, the emptying of the ventricles, especially the left one, grew laborious, and hence must have resulted in stasis in the pulmonary circulation. By means of this stasis, during which the blood is rapidly supersaturated with CO_2, the hurried breathing may be explained, as also the dyspnœa, cyanosis, coldness of extremities, weak pulse, and the vaso-motoric contraction of the smaller arteries.

According to Traube Henoch asthma dyspepticum is caused by a vaso-motoric contraction of the smaller arteries, induced by reflex irritation originating in the stomach, and hence the symptoms enumerated above. — *Deutche Med. Zeitung.* G.A.F.

Treatment of Phthisis and Emphysema Pulmonum with Compressed Air. — Dr. Loesch, St. Petersburg. Of ten cases of phthisis pulmonum it was found that in eight the bodily temperature rose 0,3° during treatment with compressed air. In but two cases was a very insignificant lowering of the temperature noticeable. The weight of each of the ten patients diminished during treatment, even in those cases in which before this method was accepted, no loss of weight had occurred.

The quantity of urates in the urine increased in all cases, accompanied by a decrease of chlorides, which pointed to an increased activity of tissue metamorphosis. The lung capacity became greater in several cases, but as a rule the contrary was observed.

The quantity of sputa underwent no change, Objective examination demonstrated in many cases a decided aggravation of the pulmonary affection.

Subjective relief could not be proven. Some of the patients could only with difficulty be persuaded to continue the treatment.

During these attempts other therapeutic agents were discontinued, so that the results of the method could be more accurately studied. In cases of emphysema this treatment resulted in an increase of lung capacity, decrease in frequency of respiration and pulse, and a gain in weight.—*Deutche Med. Zeit.* G.A.F.

Tartrate of Chinolinum as a Remedy for Pertussis.—G. Koch, Wiesbaden. — Coupled with its antipyretic properties the author also mentions the efficacy of chinolinum in pertussis. He ordered chinolini tartaric 1,0 aqua distil. syr. simpl. aa 75,0, tablespoonful every three hours. The administration is not attended by much resistance on the part of the child. He attended eighty-five patients; in thirteen cases the patient was discharged well at the end of two weeks; nineteen lasted four weeks; nine, five weeks; seven, six weeks; and the remainder a longer period. But even in those of long duration the severity of the attack was mitigated after the use of chinolin. The cough soon looses its characteristic whoop, and resembles more a bronchial catarrh.—*Deutche Med. Zeit.* G.A.F.

Treatment of Diphtheritic Paralysis.—In a lecture at the Hospital for Sick Children (*Gaz. des Hop.*), M. Archambault has described the therapeutic indications which should guide the physician in the treatment of diphtheritic paralysis. The subjects of this disease being generally weak and anæmic, the first indication is to have recourse to preparations of iron, such as syrup of iodide of iron, and especially iron pills, which are more easily swallowed than liquids; quinine is also indicated. To excite muscular contraction, tincture of nux vomica should be administered as a draught in progressive doses, commencing by ten drops, and being increased to fifteen to twenty drops a day. Dry friction on the skin, or with a piece of wool impregnated with benzoin, is also prescribed to stimulate nutrition and arouse sensibility. The baths of Barèges are also an excellent stimulant. Residence at the seaside and sea-bathing give good results in patients in whom these paralytic symptoms last for several months. To these different methods, M. Archambault adds the employment of electricity in continuous currents, which he considers as having a better effect on nutrition than intermediate currents. Finally, when it is absolutely impossible to feed the patient by the ordinary methods, on account of the danger of fits of suffocation, he has recourse either to the œsophageal sound or to nutrient injections. In reference to the ocular troubles, of which it is not generally very necessary to take much note, M. Archambault prescribes, when they have a certain persistency, a collyrium composed of ten centigrammes of sulphate of eserine in thirty grammes of distilled water.—*London Medical Record.*

SPECK ON THE RELATION OF MENTAL ACTIVITY TO TISSUE-METAMORPHOSIS.—Dr. Speck (*Archiv für Pathol. and Pharm.*, Band xv.), after numerous and careful experiments on himself and others, concludes that mental work does not to any perceptible degree affect the metamorphosis of the tissues of the body. The total quantity of the urine is not altered, nor are the urea, uric acid, chlorides or sulphates increased or diminished. Contrary to expectation, there is not the slightest increase in the excreted phosphates. The proportion also of oxygen, nitrogen, and carbonic acid in the respired air, is much the same as when the brain is not actively engaged. The molecular changes which occur in the brain during its activity are, therefore, either not oxidation-processes, or, if so, are so little in amount as to escape detection by the methods of investigation employed.—*London Medical Record.*

SURGERY.

TEMPERAMENT, IDIOSYNCRASY, AND DIATHESIS IN RELATION TO SURGICAL DISEASES.—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F.R.C.S.

There is yet one other skin disease of such extreme interest in varied directions in reference to questions of diathesis—I refer to lupus; and I comprise under that name not alone the common form, but certain other more or less rare varieties of the process which I trust to be able to claim as certainly belonging to the lupus family. I am not about to trouble you with any detailed description of those several forms, but in order that the questions as to cause, relationship, and the diathesis behind them should come clearly out, it is necessary that I should recapitulate a few facts.

Concerning common lupus, I would assert that it is well known that it begins as a cell growth in the corium, that it always begins as a single patch, and always spread at its edge by the infection of the adjacent skin, and that it very usually tends in the end to become multiple.

Its multiplicity as well as its local spread is due to its infective power, and its secondary growths are almost always placed in close proximity with the parent one. It never in any case, however extensively multiple its patches may be, shows any tendency to symmetry; in all these features its clinical history resembles that of a local cancer. That which is true of the locally restricted forms of epithelioma known as "rodent ulcer" is true also of common lupus. Both are slowly progressing new growths which after a time inflame and ulcerate and then cicatrize. Both are curable by free measures of local extirpation and by those only. You cannot influence either except in the most minor degree by any remedies which appeal to the general health. Neither shows any power of producing gland disease, nor any tendency to spontaneous amelioration. The one is a disease chiefly, however, of early life, and the other of adult age. The varieties which common lupus presents do not offer us anything very exceptional to what I have said. According to the constitution of the individual, the state of health, the kind of diet, and the climate, lupus may influence and ulcerate much or little, and in connection with these almost accidental differences, the old, and I trust now abandoned terms exedens and non-exedens came into use.

It may vary also very much as regards its restriction to a single original patch, or its tendency to multiplicity. Sometimes we see a single patch steadily spreading at its edge through the greater part of a long life, and never showing any tendency to produce new ones. This probably depends upon comparative vigour of constitution and a lesser degree of susceptibility. The explanation of the secondary patches when they occur is in all probability they are the result of infection. As already stated, the multiplicity is never spontaneous.

It is not, I think, beside the mark that I should ask attention to the methods of cure which have been proposed for lupus as indications of some slight affinity with the diathesis of malignant diseases. We have lately been taught by Professor Volkman that every portion of the diseased tissue should be most carefully eradicated by the spoon. But his proposal had nothing whatever in it that was original in its theory, for long previously we had all been accustomed to act on the same principle and to seek by the knife, the caustic, or the cautery to utterly eradicate every fragment of the new growth. If I am not mistaken, we owe to Mr. John Gay, to whom surgery is indebted for many other practical suggestions—the radical proposal that the lupus patch should be cut out with the knife. It is essential that whatever method be adopted it be pursued unflinchingly and over and over again if needed. In this way lupus may be cured, and it is not too much to hope that now this principle is becoming understood, and the profession is becoming bold in its practice, we shall before long witness a great diminution in the number of those who are disfigured by it. My object, however, in mentioning the success of vigorous local measures is not to enforce a lesson in therapeutics, but to intensify our conception of common lupus as a local new growth possessing infective properties. I might add that it often begins from some slight local injury, a sting, an abrasion, an acne pustule. Amongst the interesting varieties which common lupus presents we have a rare form, which occurs in scattered spots over the face, these spots being evidently connected with sebaceous follicles, and often with previously-existing acne pustules. Their arrangement, however, I believe, never follows that of acne in being symmetrical, but always obeys the law of lupus, in that the secondary tubercles are more or less near to the parent one. In another variety lupus attacks mucous membranes and produces slowly spreading ulceration, attended with papillary outgrowth.

That lupus of mucous membranes as we see it affecting the conjunctiva, the gums, the palate, etc., is really lupus is proved by its very frequent association with characterized disease in the skin. In another extremely rare variety, of which I have seen but one example, the lupus growth is exceedingly trivial, does not ulcerate at all, spreads rapidly at the edge, leaving behind it a thin, supple, healthy scar. In yet another variety it receives modification probably from the part in which it occurs. It is but seldom that we see well characterized lupus on the hands or feet. But we often encounter a form of disease which takes its place in which there is less evidence of new growth and more of inflammation due to dissection wounds on the hands, necrogenic warts of Dr. Wilks, necrogenic lupus, I think, belongs. There is yet another variety in which the surface of the lupus patch does not ulcerate, and is not raised, but weeps, like an eczema, presenting a condition which would at first sight, and certainly by the inexperienced, be mistaken for eczema. The points to which we appeal in proof that all these very different-looking inflammations of the skin are really lupus are that they all take origin at a single spot, spread slowly but constantly at their edges, and whether they ulcerate superficially or not, always have a cicatrix where they have passed. I do not think that there would be much hesitation in accepting the statement that a disease which presents these features and is not either a cancer or syphilis must be a lupus.

We have arrived, then, at the end of our first stage in the inquiry, and have seen that this peculiar form of new growth in the skin and mucous membranes to which young people are liable may, while observing identities in essentials, manifest very peculiar differences in external appearance. It may be single patches or multiple, it may look like itself or an acne, a lichen marginatum, or an eczema. There differences have more to do with the original differences in the texture of the skin which is attacked than any other class of causes. Let us notice the peculiar thinness and delicacy of the skin in the boy who furnishes us the example of what I have called lupus marginatus, in which exceedingly little growth and no ulceration occurred. We have now to take another step and to encounter another process with far more important differences.

The diseases which are known as lupus erythematosus, and its variety lupus sebaceous are more than a mere modification of common lupus. They are distinct varieties, or, if one dared to use such a word, they are almost species. They manifest relationships with other type-forms of skin diseases almost as close as those they bear to common lupus. Had it not been for the fact that the common form and erythematous form often exist together or slide in to each other by insensible relations, we might have been tempted to prefer to call erythematous lupus by some other name. Its most important difference of feature is that it usually occurs symmetrically. Thus there is far more reason to believe that it is due to a constitutional peculiarity than is the case with the absolutely non-symmetrical and local lupus. The arrangement of the bat's body and wings on the nose and checks in erythematous lupus is well known. The parts affected next to the nose and cheeks are almost always the ears, and next to them the backs of the hands. In this spreading there is no continuous connection between the patches. They are separate from each other, and apparently independent. The evidence as to multiplication by infection is far less strong than it is in the common form.

Though there can be not the slightest doubt that this kind of advance does take place at the edges of the patches, and remembering what I had to advance in our last lecture in reference to the possibility that all inflammatory processes may be capable of infecting the blood, I am unwilling to admit, even when we see lupus erythematosus on the backs of both hands, whilst the whole of the rest of the upper extremities and trunk remain free, that we have conclusive proof that these secondary manifestations are independent of the original patches on the face. The symmetry cannot possibly be due to any other cause than pre-existing proclivity of tissues; but it is just possible that it is not independent of an of an infective process also. At any rate, it is true that this disease is wonderfully symmetrical; the ears, the cheeks, and the backs of the hands show exactly the same conditions on the two sides. The variety to which the name sebaceous is given is often not erythematous at all. There may be no redness and no swelling, but the skin becomes dry, rough, and shrunken, and the orifices of the sebaceous follicles are very conspicuous, like the inner side of a nutmeg-grater. This form is also accurately symmetrical, but it rarely leaves the face. If you see it on the nose you may look for it on the ears, and in the middle of the concha of each, just where in acne a group of comedones is often seen there will be a little patch of lupus. Lupus sebaceous and lupus erythematosus are frequently mixed in the same case, and they are probably the same disease modified by peculiarities in the skin. Although I have described them both as usually symmetrical, not unfrequent exceptions occur under all conditions. They show their alliance with lupus by leaving the skin which they have affected in a state of scar.

I suggested that lupus erythematosus had alliance with other skin diseases, and I was thinking especially of psoriasis and those modifications of nutrition known as chilblains, and my suggestion will now be that it owes its peculiarities to the admixture in varying proportions of these two diatheses with that of lupus. As regards chilblains, it is sometimes, when the ears and the backs of the hands are affected, quite impossible to differentiate between them and lupus erythematosus. The latter, like chilblains, is always worse in cold weather, and it usually occurs to persons of feeble circulation, in whom venous congestion easily occurs when the surface is chilled. Its alliance with psoriasis is shown, not alone by its symmetry, but by the fact that in exceptional instances the scaly patches may be seen on the tips of the elbows, with now and then a diffuse psoriasis condition of the whole surface.

Children and young persons are but rarely the subjects of lupus erythematosus, nor does it usually attack those in whom the skin is thick. Thus, I think we may assert respecting lupus as a whole, that it is a sort of cross produced by conjoined tendencies at once to scrofula and cancer, and that it receives many modifications in respect to peculiarities of the patient's skin and his morbid tendencies in one or the other direction. If he has a degree of tendency to the psoriasis diathesis, it will assume the erythematous form, and it will be then especially prone to attack the extremities if it encounter also the proclivities to chilblains.

I have yet left for consideration another variety of lupus concerning which a few words must be said. It is one which differs much from all forms which we have described, and yet I submit that it is really a lupus. I know as yet but of four recorded examples of it. The late Dr. Tilbury Fox showed at a meeting of the Pathological Society a young man on whose thigh were two different and very peculiar conditions—one being a congenital port-wine stain, and the other a persisting vesicular eruption which had been developed at a later period. As a result of microscopical examination, Dr. Fox believed that the vesicles in question were in connection with the lymphatic trunks and spaces. At the same meeting I mentioned two cases in which I had for a considerable time taken much interest, but which we neither of us then thought to be exactly similar. A third case has subsequently come under my observation, and I have now no hesitation in believing that the four are examples of the same malady, and that the lymphatic spaces and the lymphatic trunks are really implicated. Whether it deserves the name of lupus lymphaticus I must leave to your judgment. All the four patients were boys; in all it was slowly spreading at the edge, and producing, near to the parent patch, secondary ones, which were apparently due to infection. In none of the cases was there ulceration, and in all the eruption consisted of little firm resisting vesicles which showed no tendency to rupture, and were aggregated into confluent groups. Upon these vesicles and at their bases were little tufts of capillaries which were almost fervid in character.

By microscopic examination of portions cut from all three cases I have satisfied myself that the lymphatic trunks are dilated, and further, that there is a new cell-growth around them exactly like that of common lupus. So similar is cell-growth to that of lupus that a very able microscopist who examined one of my slides took it for a specimen of that disease. It is right that I should add that in this microscopic examination I have been much assisted by Mr. Sangster, Mr. Robert Parker, and my eldest son.

My belief is that the malady in question bears the same relation to the lymphatics that lupus erythematosus does to the blood-vessels, and that it is an instance of the existence of a new growth assuming clinical features in connection with the peculiarity of the special tisssue in which it takes its origin. As in cancer everything depends on the tissue first affected, whether the growth is a melanosis, an epithelioma, or a scirrhus, so in lupus permanent modifications are stamped on the process according as it begins around the sebaceous glands the blood vessels, the lymphatics, or in the corium. When the type has been once taken it will be retained. The various forms of iritis are of peculiar value as indications of diathesis. Its occurrence in infancy, a very rare event, is usually indicative of syphilis. In adolesent periods, and early adult life, we have different forms of iritis which generally imply the inheritance of gout. This inheritance is, in such cases, often modified by other individual peculiarities, such as feebleness of circulation and proneness to chilblains. When this is the case, a very peculiar form of multiple arthritis which begins in the last joints of all the digits, and often affects them exclusively, is sometimes seen.

The explanation of last joint arthritis is doubtless to be found, as I have just suggested, in the peculiarity of circulation which in later life gives tendency to symmetrical gangrene of the extremities, as so well described by Raymond, and more recently amongst ourselves by Dr. Southey. It is not, however, due to this alone. There is always joined with it an inherited tendency to gout. There is always joined with it an inherited tendency to gout. The cases of recurrent iritis which we meet with so frequently in adult men, but occasionally in women also, in which the attack is sharp and severe, the immunity complete, and the recurrences take place once a year, or oftener,. is, I believe, distinctly an indication of rheumatic gout. It does not very often happen to those who suffer severely from declared gout, and it is very rare in connection with rheumatism only. We meet with it in those in whom there is inherited proclivity to gout, and it is rare in this connection only. We meet with it in those in whom there is inherited proclivity to gout, who have lived rather freely, who are susceptible alike to weather and to diet, but who have never themselves had an outbreak of true gouty arthritis. The fact that this form of severely paroxysmal iritis occurs much more frequently in men than in women supports the general statement which I have just made, In women of middle age, or a little past it, we encounter iritis in another form, as an insidious disease, attended by a little conjunctival redness, and some sensation of heat and irritability, and gradually, without any definite paroxysms producing attend it are more definitely influenced by extensive adhesions. The little exacerbations which exposure to cold and wind than by diet. This form of iritis is, I believe, almost invariably a consequence of a remote inheritance of gout.

We tried in a former course of lectures to give a definition of the word catarrh which should enable us to employ it for more accurate clinical purposes than it is often used. I suggested that it should be held to imply identity in cause, and not similarity in result. There is surely no good reason why all forms of inflammation of mucous membrane attended by free discharge irrespective of their cause, which are often very different, should be called catarrhal. On the other hand, if we use the word in the sense which I contend for, we shall find it applicable to other inflammations besides those of mucous tissues. In so doing we shall construct a large and perfectly natural group of maladies. Whatever is the result that of catching cold is catarrhal; conditions which follow from other and dissimilar causes, however similar their results, ought to be refused that name.

The catarrhal diathesis, using the word in this sense, is one of the three fundamental ones. It is not due to any specific or any specialized cause. Every organization possessing a nervous system must be supposed to be capable of manifesting it, for its essence consists in proneness to inflammatory congestions excited in a reflex manner through the influence of cold applied to the surface. The susceptibilities of the nervous system, however, in this direction differ, as we all know well, very greatly in different individuals. These differences are hereditary, and may easily become the possessions of families or of race. Not only do individuals differ in the degree of reflex susceptibility, but they also vary much as to the special tissues or organs which are most prone to suffer under it. Thus, some catch cold almost solely in the mucous membranes of the nasal passages and pharynx; in others, the tonsils, throat, and larynx are more prone to suffer; in others the bronchial mucous membrane; and in others the stomach and bowels, or even the liver. Although I shall admit rheumatism to the rank of a universal diathesis and place it for the present in this respect side by side with scrofula and catarrh, yet in doing so I shall have to suggest, as indeed I have repeatedly done, that rheumatism after all is only the catarrhal diathesis affectng the joints. Let me state a few general facts respecting catarrhal affections, and then pass on. First, it is a great mistake to imagine that only those of delicate constitutions, and accustomed to much protection from weather etc., are liable to catch colds. Farm laborers and others engaged in laborious out-door pursuits, often show this suscepiibility very definitely, and suffer very severely. My impression is, however, that the peculiar degree of susceptibility which causes its possessor to experience slight catarrhal symptoms on every little variation, acccustomed exposure is rarely reached in them. They take cold, but seldom, and when they do, it is in connection with some exceptional cause, and the catarrh develops with exceptional severity. I have, however, met with some remarkable instances of extreme development of the catarrhal diathesis in those who are constantly out in the open air. Especially well I recollect an apparently robust farmer, who could do anything he liked out of doors, but who could not sit in a carriage with an open window, or for ten minutes with his feet on a stone floor, without catching cold. It is a general law of all catarrhal affections and well recognized in the experience of every one, that they are spontaneously curable, but very liable to recurrence.

All forms of catarrh pass off spontaneously after awhile, and in many persons their duration is tolerably regular, and the period of immunity often keeps to the same average. When we find the results of a catarrhal inflammation threatening to become lasting, we feel sure that the diathesis is a complicated one. It is one which very early mixes itself up with other forms of ill-health. We define scrofula to be a state of solid tissues, and more especially of the lymphatic system as a whole, in which there is peculiar proneness to chronic inflammations resulting in products more or less peculiar and specialized.

Modern discoveries will perhaps lead us to believe that those specialized as produced are usually accompanied by the presence of particular organisms which are neither part of, nor derived from, the original tissues. Be this as it may, we shall have to study the scrofulous diathesis and the predisposing causes of scrofula just as before. We shall have to ask what are the conditions which favor, or otherwise, the development of the bacteria in question. Even the firmest believers in the new facts admit this. Looking, then, upon scrofula as a permanent and heritable condition of the tissues favoring chronicity in all inflammatory processes and directions towards more or less specialized ends, it is easy to see that in such individuals catarrhal attacks may depart from their usual type, and may not show their natural tendency to spontaneous disappearance. As a matter of fact, we are only too familiar with the danger of catarrhal attacks in scrofulous subjects.

THE TREATMENT OF FRESH WOUNDS. — Dr. John Duncan draws the following deductions from his observations:

1. That when we succeed in preventing sepsis at the operation we can by this method rely on singularly simple and favorable progress, with total absence of fever, with freedom from pain, and with great rapidity of healing. It is proper to be exceedingly careful in the arrestment of hemorrhage; but even did a little reactionary oozing occur, it is only necessary to renew the dressing once, or, as he did in some of these cases, to put on an additional layer of wool.

2. That should sepsis lead to inflammatory action, it is necessary temporarily to abandon the dressing.

3. That even in the septic cases it is often advantageous to continue it throughout if there be no inflammation, or recur to it when inflammation has subsided, because it is a good excipient for discharge, because it tends to diminish the

amount of pus, and because it aids in keeping the part at rest.

4. That in fresh wounds so situated that they can be firmly and equably compressed the introduction of materials to secure drainage is usually unnecessary, and that if the drainage tubes be introduced they should be removed in twenty-four hours.

5. That sepsis is less apt to occur by this method, as it avoids the risks which attend changes of dressing and movements of drainage tubes, which, in my experience, are more fruitful sources of failure than even the original operation. —*Edinburgh Med. Jour.*

CONCERNING THE TRANSPLANTATION OF MUSCLE ON MAN.—Dr. Helferich, of Munich, after the removal of a large fibro-sarcoma from the biceps muscle of a woman, aged thirty-six, refilled the gap left vacant with a freshly cut piece of muscle taken from a dog; fastening the same with six lower and thirty upper catgut ligatures. A cure followed the antiseptic treatment. The patient can now readily flex and extend the arm. An electrical examination instituted by Ziemssen did not show any abnormality, and it appears therefore that the transplanted muscle has retained its vital functions.—*Berliner Klin. Wochenschrift*, No. 26. L. J. K.

OBSTETRICS.

MIDWIFERY IN THE SANDWICH ISLANDS.—The brother (non-medical) of one of our members resident in Honolulu, gives the followihg description of the *modus operandi* of the Hawaiian midwife. "The midwives here are for the most part men—usually old men. When the woman's time draws near and labor commences, she is placed sitting on a man's knee with her back to him. He then clinches his hands over her abdomen, and with all his strength hugs the woman, until the child is actually forced into the world, falling to the floor between the operator's feet. The umbilical cord is then cut, and always left very long. Then the woman is placed upon her feet, and the midwife takes her tongue, and draws it steadily until she gulps, or retches, this action causing the prompt ejection of the afterbirth. After this she goes and flounders about in the sea, and returns to land, ready for such domestic duties as may fall to her lot or inclination. Native children are—as may be inferred from the way in which they are introduced to existence—very easily born; but should the baby stick at all, or make any bother about being born, then the mother knows it is going to be half white, as this latter kind of baby is so much bigger in the forehead. It is a wise child that knows its own father in this country. So well recognized is this fact that natives never ask, 'Who is your father?' but only, 'Who is your mother?' when they desire any acquaintance with one another's genealogy."—*Brit. Med. Journal.*

D. B.—Call at the LANCET Office for information.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, September 16th, 1882.

The Week.

THE MEDICAL SCHOOLS.—The medical schools of the city have entered upon another session, the preliminary term now being fairly under way. It is a matter of congratulation to the friends of the colleges of the city that the classes are large. Not only are the classes satisfactory in the point of numbers, but they are made up of a class of men who seem determined to embrace every opportunity that is offered them for learning. In the Medical College of Ohio, for instance, not less than eighthy-one men are at present working in the practical laboratories of either chemistry, histology or pathology, and when it is remembered that the laboratory work is not required, but elective, it is easy to see that there must be a spirit of work in the students. The dissecting rooms are not yet open, but between ninety and one hundred tickets have already been taken out.

Miscellany.

The Compulsory Notification of Infectious Diseases by Medical Men.—For the first time this question was discussed at a general meeting of the British Medical Association at Worcester, after due notice had been given, with the result which those who had urged the necessity of discussion anticipated, viz., a condemnation by a very large majority of the principle of compelling medical men to report. The result was all the more significant from the fact that Mr. Hastings was present to defend his own bill, and that he was backed by a large number of medical officers of health, prominent of whom was Dr. Littlejohn, of Edinburgh. A preliminary discussion having taken place in the Public Health Section on the 10th inst., on a paper read by Dr. Carter, of Liverpool, the question came up for decision at the general meeting held at 11.30 a.m. on the day following. Much interest has been excited, so that the attendance was very large. The proceedings were commenced by the President reading a memorial, signed by sixty members, which had been agreed upon at a meeting held at Liverpool, presided over by Dr. Carter, praying that a time should be set apart for the discussion at Worcester; and he then called upon that gentleman to open the discussion.

Dr. **Carter** pointed out that the Public Health Act of 1872 had been loyally accepted after full discussion in Parliament, and had been productive of a large amount of good, about a quarter of a million of people being alive at the end of the first decade of operation who but for it would probably have died; that the principle of the Act was to make every medical man the medical officer of health for the households which he attended, but that almost immediately after it became law medical officers of health began to clamor for another Act founded on novel principles, of which compulsory notification by medical men, compulsory removal of patients to hospital, and compulsory closure of shops were examples. These principles had been adopted in some few local Acts for a long enough time to judge practically of their results. They had often been introduced in a surreptitious manner into Bills under cover of titles which afforded no presumption of their character, as for example, into the Nottingham Bill, which was to enable the authority to "construct new gasworks, repair a road, and other purposes," and hence has not been fully debated in Parliament, as the General Act had been, and had not received, as it had, the sanction of public opinion. Bolton has been put forward by Mr. Hastings and many others as a remarkable example of the advantage to the Act which embodied these new principles. This town has had a larger experience of it than any other in the Kingdom, and what was the result? Why, that taking the arbitrarily selected number of years, and the very diseases relied on by Bolton for proving her case, it was found that Liverpool, which for many reasons was more liable to infectious diseases than any other city of the United Kingdom, had progressed nearly half as fast again without any such Act as Bolton had with it; and that if a similar comparison was made between the latter town with its Act and the country generally without it an exactly similar result was discovered—Bolton lagging far behind the country in the race of sanitary improvement. Dr. Carter further showed that, according to returns given in the *British Medical Journal* for Jan. 7th, 1882, the mortality of Edinburgh had increased from 20·24, the average of four years before it acquired compulsory powers, to 20·55, that of the two years since; and that of measles, which Dr. Littlejohn had specially mentioned as showing the practical advantage of the Act, 440 cases had been reported in February of the present year, 1,118 in March, and 1,239 in April, figures which in his judgment simply demonstrated the impotence of the Act to deal with the disease—nearly 3,000 half-crowns having been disbursed in consideration of this proof of its powerlessness. He next gave examples direct and inferential of concealment of infectious disease in some of the towns possessing compulsory powers through dread of the publicity which would follow the calling in of a medical man. He cited the enormously high death-rates from typhoid fever in Bolton and Blackburn as showing either that many cases were concealed, and thus the death-rate made to appear exceptionally high, or else that the application of the powers provided by the Act was very fatal to the individuals attacked. Dr. Carter then gave a number of examples of conflicts between medical officers of health and general practitioners, leading in several instances to the imposition of fines on the latter, and causing in all cases a spirit of bitterness and antagonism between the curative and preventive branches of medicine, which must be detrimental to sanitary progress. Among other instances he quoted from a letter of Dr. Bond, in which that gentlemen stated that he "should be afraid to say how many deaths came under his notice registered as having occurred from diphtheria, croup, and laryngitis which he had good reason to believe were simply cases from imperfectly developed scarlet fever," and remarked that if the law of Bolton had been in operation in Dr. Bond's district he would have been morally bound to institute proceedings against all those medical men of the correctness of whose diagnosis he presumed to be the judge. Lastly he showed petititons signed by many hundreds of medical men from Liverpool—including the name of the President elect of the Association—and from Ireland, brought specially over from Dublin by Dr. Jacob, against the principle of compulsory notification by medical men, and proposed, in order to test the true feeling of the Association on the matter, that a plebiscite should be taken.

This was seconded by Dr. Ewing Whittle, of Liverpool.

Dr. Littlejohn moved as an amendment,

"That in view of the unanimous opinion of all competent sanitary authorities that notification is the indispensable basis of action for arresting the spread of infectious diseases, and of the general testimony as to the satisfactory operation of the Acts already passed to make such notification compulsory, this meeting declines to withdraw the approval which the Association has repeatedly expressed in favor of urging Parliament to make the notification of infectious disease generally compulsory, under such conditions as may appear to be, after due inquiry best calculated to protect the public health." He objected to a plebiscite on the ground that those from whom the vote would be taken would know nothing about the matter; gave the history of the Edinburgh Act; denied the accuracy of the figures of the Edinburgh correspondent to the *British Medical Journal*, which showed a rise in the general mortality of that city since its Act had been obtained, and urged the adoption of the amendment by the Association.

The amendment was seconded by Mr. Everett, of Sydenham, and supported by Mr. George Hastings, M.P., who spoke of the unanimous approval of the twenty-three sanitary authorities in England who had adopted compulsory powers as showing their practical advantages, and mentioned that none had appeared before the Select Committee to oppose the powers, and that when another Act to compel medical men to perform certain duties,—viz., to register the cause of death—had been proposed it had been at first opposed, though now acknowledged to be of great advantage.

Dr. Fitzpatrick, of Liverpool, pointed out that Mr. Hastings was wrong in nearly every particular; that no medical man could be compelled to give a certificate of death; that so far from there being no opposition before the Select Committee, Dr. Alfred Carpenter had specially appealed to be heard against the compulsory clauses, but had been refused on the ground that he had no *locus standi*, and that the supposed assent of the twenty-three towns was merely the expression of the opinion of their medical officers of health, who having asked for an Act, would scarcely be likely at once to admit its failure. He went on to show the fallacy of Dr. Littlejohn, who constantly spoke of "the Act," as though the Edinburgh Act and those of the English towns were identical, when, as a matter of fact, they were strikingly dissimilar, most of the latter excluded measles, and allowing only one report from a single house within thirty days, while Edinburgh included that disease, and paid for every case, even if there should be a hundred of those houses to which Dr. Littlejohn had alluded as containing sometimes as many as 120 inhabitants. He remarked that his opposition was based on the ground of these powers being opposed to sound of public footing, and that it would be equally great if a fee of a guinea were offered instead of half-a-crown; but that without speaking offensively, he thought it not impossible that the national love of the bawbee, and the ease with which, owing to the peculiarities of the Edinburg Act to which he had alluded, many of those could be acquired by his Scotch friends, had had much to do with allaying their opposition.

The amendment being put, the President declared it carried.

A further amendment was then put by Dr. Mahomed,

"That this meeting earnestly desires compulsory notification of infectious disease, but it wishes to express its opinion that the compulsion to notify should be placed upon the householder as his duty as a citizen, and not upon the doctor."

This was seconded by Mr. Husband, of Bournemouth, and carried by a very large majority; and as no further amendment was forthcoming, it was subsequently passed as a substantive motion with an equally large majority.

Dr. Jacob, of Dublin, who had attended for the purpose of taking part in the debate, and had brought a very numerously signed petition against compulsory notification by medical men from Ireland, was unfortunately summoned from Worcester to London to give evidence before a Select Committee of the House of Commons.—*Medical Press.*

THE SMOKE-TEST FOR DRAINS.—This test for defective waste-pipes is now being a good deal used by sanitary engineers in England and Scotland, and seems to work very satisfactorily.

In the last report of the Sanitary Inspector of Glasgow, a town in which some very good sanitary work has been done, the reporter says the inspectors there have to a great extent overcome the difficulty of dealing with structural defects attendant upon defectively jointed soil-pipes and drains in connection with sinks, wash-hand basins, and water-closets where such, as is frequently the case, are inaccessible from the stupidly persistent practice of laying them beyond convenient reach.

The smoke-test is applied by a small machine with powerful fanners, which blow the smoke of ignited cotton-waste, saturated with oil, into the whole drainage system of the tenement operated upon, by openings in the soil-pipes or otherwise, and which in due time issues at all imperfect joints and connections, disclosing their position with perfect accuracy. The operation, of course, is most satisfactory where all the pipes along their whole course from the house to the main sewer can be exposed, and it is well understood now that such inspection should be provided for when a house or building is plumbed.

The value of this test is indorsed also in a book entitled House Sanitation, quoted in the *Sanitary Engineer*. The author, Mr. Stanger, a civil engineer, mentioned as an example of the usefulness of the smoke-test an experience of his own whilst inspecting a large hospital, and says:

"When making a first inspection at the Wolverhampton General Hospital, and testing with the smoke-test by forcing smoke up the drains with a small fan-blast, and thus finding out the untrapped inlets and leaky joints within the building, we discovered, among many other defects, smoke issuing from a pipe-casing in the corner of one room. On examination it was found that an inch overflow pipe from a disused cistern had been cut off by some plumber, anxious, perhaps, not to contaminate the water supply, and the end communicating with the sewer left perfectly open into the room. On re-testing to prove the work when the alterations were completed, one part of the basement was filled with smoke, and it was thus discovered that a temporary connection put in during the alterations had not been removed."

The smoke-test will localize defects where peppermint will not, and the presence of the smoke is neither so lasting nor so all-pervading.—*Boston Medical and Surgical Journal.*

MEDICAL RUBBING.—The following was read in the Section of Medicine at the Annual Meeting of the British Medical Association in Worcester, August, 1882, by J. Fletcher Little, L.R.C.P., Ed., Ben Rhydding, and published in the *British Medical Journal:*

Medical rubbing, when skillfully done, is one of the most effective and powerful remedies that we possess. If it is done by ignorant or untrained hands, it is capable of doing immense injury.

Medical rubbing can restore the wasted muscle, can unloose the stiffened joint, can promote the enfeebled circulation, can bring back sensation to the benumbed limb, can soothe the irritated nerves, and can promote digestion and assimilation by causing healthy waste and excretion. The principles of medical rubbing are simple and easily understood; so that any medical practitioner can train a suitable person in a few lessons.

The rubber should be strong and healthy, bright and cheerful, with plenty of energy and intelligence. A stupid lout cannot make a good rubber.

The hands of the rubber should not be too small nor too large. They should not be bony nor clammy, nor horny nor doughy. They should be firm, warm, supple.

The position of the rubber should always be that of perfect ease. No one can rub if they are craning over a patient, or in a cramped or constrained position. The patient must always be placed in such a position that the rubber is perfectly at his ease. If this is not done the rubber soon tires, uses unnecessary force, hurts the skin, bruises the muscles, and does more harm than good. The position of the patient should also be one of perfect ease. No muscle should ever be rubber except it is soft, and no joint except the skin over it is relaxed. The skill of the rubber is greatly aided by the science of physicians in placing the muscles and joints in the most suitable position. The patient should be lying down on a low bed or couch, and the rubber sitting close to or standing by him.

The limbs should always be rubbed from the extremities upwards and the trunk from above downwards. The rubbing I am going to demonstrate to you is a combination of what I learnt at Paris amongst Prof. Charcot's cases, and at Philadelphia last autumn, when I had the great privilege of seeing a dozen or more of Dr. Weir Mitchell's cases undergoing what is now called the rest cure.

It is a combination of the "skin friction," "French massage," "muscle rolling," and "kneading," "deep thumbing," and "medical calisthenics," or the Sweedish movement cure, which I shall fully explain in the demonstration.

Many attempts have been made to supersede the human rubber; and if any of you are in London, I should advise you to visit the Zander establishment above the Soho Bazar, Soho Square, Oxford Street, where you will see some series of almost costly and ingenious machines for doing what any medical rubber can do with his own hands.

Dr. Roth and his son, Mr. Bernard Roth, have shown what the concentrated will can do when brought to bear on an enfeebled muscle. Gentlemen, you can now combine every advantage of all these systems by the simple means I shall now show you.

THE POISON OF MUSHROOMS.—Prof. Ponfick, of Breslau, has lately made experiments on the common mushroom, of which the following are the results. All common mushrooms are poisonous, but cooking deprives them, more or less, of their poisonous qualities. The repeated washing with cold water which they usually undergo to clean them, takes away a portion of the poison, and boiling does the rest; but the water in which they have been boiled is highly poisonous, and should always be carefully got rid of. Experiments made on dogs showed that if a dog ate one and a half per cent the poison had a more violent but not fatal effect, and if it ate two per cent it was inevitably fatal. The water in which mushrooms had been boiled was far more poisonous than even the raw mushrooms, while the mushrooms thus boiled could be taken without hurt to the amount of ten per cent of the weight of the dog's body. Washing with cold water does not remove all the poison, so that mushrooms thus prepared are poisonous when taken in larger quantities. Dried mushrooms are still dangerous for from twelve to twenty days, and also the water in which they have been boiled. They require to be dried for at least a whole month, and are only really safe after four months' drying.—*British Medical Journal.*

WOODEN CLOVES.—The *Madras Mail* mentions the appearance in the market of artificial cloves, which remind one of the once celebrated wooden nutmegs of Connecticut. They are made of soft deal, stained a dark color, and flavored with oil of cloves. The counterfeit spice is said to have been imported into Zanzibar from the United States.

Bibliography.

THE CHANGE OF LIFE IN HEALTH AND DISEASE.[1]

The name of the author is familiar to all who have devoted particular attention to the study of uterine therapeutics; his subject, however, one that is comparatively unknown and too little touched upon in the lecture room and in the text-books upon gynecology. All will agree with the author in his claim that the critical period, or, as he says, one of the critical periods in the life of woman, together with its incident phenomena, is deserving of careful study; and Dr.

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[1] By John Edward Tilt, M.D.

Tilt is entitled to considerable credit for the labor he has spent in gathering statistical and other information on the subject. The results of a large experience appear very prominently—almost too prominently—throughout the book; and the illustration of statements by long and detailed accounts of cases, often causes the reader to lose the sequence of the text. A great deal of importance is attached to the description of a collection of symptoms, which are included under the name of gangliapathy; yet it is difficult to define the term, even after careful perusal of the author's description; the definition, that it is "a condition in which more or less debility is associated with paralysis, hyperaæsthesia or dysæsthesia of the central ganglia of the sympathetic system," is hardly one that would satisfy the general student, since he is not likely to be very conversant with paralysis, hyperæsthesia and dysæsthesia of the central ganglia. There are some peculiar physiological statements as that, "The nervous system is one; its three divisions work for each other, complete each other, and any damage to one damages the other two. The three persons of this trinity are co-equal;" etc. Again, "That the undue ovarian influence should cause the intestinal canal to secrete more gas or mucus than usual, thus determining diarrhœa." It is not generally known that the intestines have for a function the secretion of gas, and it would have been desirable to have a little more light on this subject. The learned author invokes authority not usually received in text-books upon medicine, as where he says: "The common consent of mankind, and the facts recorded in this chapter, go far to prove that there is a real centre of nervous power in the epigastric region." While it is certainly agreeable to our author to have the common consent of mankind to sanction his statements, the student is not likely to rest content with such indefinite information, and he would hail with more pleasure the names of a few men known to have spent their time in the study of this special class of affections. The book abounds in theory, and, while much that is valuable may be gained by a perusal of it, yet the arrangement of material, the blending of what is positively known with what is purely theoretical, and the large amount of space devoted to the recital of cases, all combine to make the work less valuable than one would be led to expect from a perusal of the preface and introductory, and lead us to think that it is not a work which will receive general approbation.

J.E.

SYPHILIS.[1]

Without any doubt this recent book on syphilis, so ably translated will find a ready sale. It certainly deserves it. Everything pertaining to this branch of medicine that has been published up to the present date is touched upon in this very excellent book.

The first chapter on the histology of the chancre and chancroid, together with the differential diagnosis between these two affections are well written, and the accompanying plates are very good.

In the following chapters almost all the different lesions of syphilis are accurately described. The lesion of the nervous system, lesions of the osseous system, lesions of respiratory system, lesions of the circulatory system, are all described, especial attention being given to the pathological histology of the organs affected. In numerous instances cases are reported with an accurate history, and following the history the account of the post mortem examination. Both the macroscopical and microscopical appearances of the organs are spoken of, and the latter are clearly explained by the excellent plates accompanying the text.

The work is ably translated and the notes added to the original text add very much to it as a book of reference.

Any physician desiring to study the histological changes that occur in the different stages of syphilis will find the work an excellent one for that purpose.

THE PHYSICIAN HIMSELF[1]—Dr. Cathell has done a good work for the medical profession in presenting it with this volume. In it will be found innumerable valuable hints on points concerning which codes of ethics leave the inexperienced practitioner in doubt.

The nature and scope of the work can best be shown by making a few brief quotations:

"Remember what is done at each of your visits. * * * Were you to ask a patient, "What kind of medicine did I give you last?" he and his friends would notice it instantly and think you felt but little interest in his case or had a dangerous lack of memory.

"Never recommend sexual intercourse as a remedy for self-pollution, hypochrondriasis, acne, etc. If such people risk adultery, syphilis or gonorrhoea let it be on their own responsibility, not on yours."

In giving a certificate, say, "In my opinion, etc." Never guarantee cure; guarantee nothing, except that you know your duty and will do it.

THE Horsford Acid Phosphate found its way last year onto many of our consumers' shelves, and proved a welcome guest. It makes the most refreshing and exhilarating acid drink on a hot day that can be found, far ahead of lemons or limes. When overcome by prolonged mental or physical strain there is nothing like it to revive the drooping spirits. Be sure and order a trial box of both these articles, as you will surely be pleased with them. With their increased facilities the Works hope now to be able to meet all orders promptly.

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[1] By V. Cornil, Professor in the Faculty of Medicine of Paris, and Physician to the Lourcine Hospital. Translated, with notes and additions, by J. Henry C. Snivel, M.D., Demonstrator of Pathological Anatomy in the University of Pennsylvania, and J. William White, M.D., Lecturer on Venereal Diseases and Demonstrator of Surgery in the University of Pennsylvania, with 84 illustrations. Henry C. Lea's, Son & Co, Phila. For sale by Robert Clarke, & Co., Cin., O.

[1] The Physician, himself, and what he should add to the strictly scientific. By D. W. Cathell, M.D., Baltimore, Md., Cushings & Bailey, 1882.

Original Communications.

CLINICAL REMARKS ON BORACIC ACID.

By W. W. Seely, M.A., M.D.,
Dispensary, Medical College of Ohio.

For a long series of years we have been drawing the attention of the profession to what we have been pleased to term a rational treatment of external diseases of the eye, and each year has been marked by decadence of the old astringent-caustic plan.

We believe it was Lister who popularized boracic acid, for a long time a secret remedy in Belgium.

Warlomont claims more benefit from its use in external ocular affections than from all other remedies. It has found other strong advocates, among whom we may mention, Panas, of Paris, Theobold, of Baltimore, and Masse, of Bordeaux.

Probably now a large number of oculists use boracic acid more or less, and it is without doubt a remedy of very general application and of great utility. The basis of its action is without doubt its toxic effect on parasitic growths, and hence its value in catarrhal and purulent affections, most clearly demonstrated in purulent otitis media, where the most brilliant results have been shown.

We are not aware that great stress has been laid on its use in blepharitis marginalis, though we know it has been used for this disease. The fact is, since the relation between strain on the eye and blepharitis marginalis has become known, and that the great remedy in connection of the anomaly in structure or balance, of muscles, unguents have lost largely of their importance. All the old pencillings with nitrate of silver, smearing with nasty mercurial salves have practically gone by.

For two or three years in both private and dispensary practice, when we have written for anything in this, it has been three per cent or four cent of boracic acid in vaseline (15 to 20 grs. to the oz.), and we can vouch for its answering every purpose.

We never treat a case of purulency now without confining the cleansing of the eyes to solutions of boracic acid, and for the milder forms in which we are unable to personally carry out the treatment we allow nothing else. In the severe form we apply once a day, the yellow oxide and vaseline as used for so many years by myself, and perhaps in addition, a solution of eserine.

It is quite generally known now that antiseptic precautions have obliterated in both hospital and private practice, the ophthalmia of new-born children, and as a prophylactic we must earnestly advise the exclusive use of boracic acid solutions, and the entire discarding of carbolic acid, since it is extremely annoying and practically demonstrated to be valueless as are antiseptic, and we need not say astringents should be treated in the same way.

Boracic acid, moreover, can claim the virtue of being inert and painless.

It is certainly firmly established now that a true purulent conjunctivitis is due to the presence of a micro-organism definitely fixed and known, and any treatment or remedies to be rational must be parasiticidal. We still adhere (and all investigations confirm the view) to our so often asserted opinion, that *mercury* is the great antiseptic, but there are conditions and circumstances that render other remedies better applicable. We firmly believe that the strikingly efficient action of mercury in catarrhal conjunctivitis and trachoma, demonstrate the parasitic nature of these affections, though now we have had found for us the microbe of trachoma by Hubert Sattler of Erlangen.

Correspondence.

FOREIGN NEWS.

Strassburg, Aug., 1882.

Editors Lancet and Clinic:

Although I acknowledge to a dearth of news, it may not be without interest to your readers to note the progress of the work on the new University here; the German University that seems to be so particularly popular with Cincinnatians; as an examination of the records shows that during only one *semester* since 1876, has Cincinnati not been represented here, either by Cincinnatians or by men whose names I recognized as graduates of Cincinnati schools.

The new university buildings proper (although these possess less interest to the medical man) lie to the east of the old part of town. They are now almost completed, and form a noble quadrangle. The main building, lying to the west is a colossal and imposing structure; with its wings, 400x225 ft. It is intended for the Faculties of Law, Theology, Philology, Mathematics and Natural History. It will face the new Universitäts Plats;" laid out in gardens. To the north of the quadrangle lies the chemical laboratory, a narrow three story building 500 ft. long. Profs. Fittig and Rose occupy this next *semester*. The south of the quadrangle is formed by three buildings, the geological museum, etc.; the physical laboratory; and the botanical institute. The quadrangle is closed in by the botanical garden with its greenhouses; and back of this lie the buildings of the astronomical observatory, already in operation.

This certainly is the most useful of the many measures taken to Germanize these provinces.

The buildings of the medical faculty lie to the south of the town, each professor occupying a portion of the old "Bürger Hospital." The new surgical clinic occupied by Prof. Luecke was described in a late letter by Dr. Taylor. The

"Anatomie," with lecture rooms and laboratories, for Professors Recklinghausen and Waldeyer, lies south of this; its triangular building surrounding a pretty court, is well known to the students of the last six or seven years.

To the west of the Anatomie were laid, this spring, the foundation of a new laboratory for Hoppe-Seyler, Prof. of Physiological Chemistry. At the time of writing the first story was well under way. It is a long building with a wing jutting from either end, giving it a broad U shape with the concavity turned towards the anatomie. East of the anatomie the excavations have been made for the foundations of a new laboratory for Flueckiger, Prof. Pharmaceutical Chemistry. To judge from these, it will be a small, square building with a wing at one corner. Still further west of the new laboratory for Hoppe-Seyler, the ground is being cleared preparatory to beginning work on a new "Psychiatrische Clinic" for Jolly, Prof. of Nervous Diseases.

This comprises the work ander way, but the plan is to eventually entirely to replace the old, rambling buildings of the "Bürger Hospital" with a series of new buildings, one for each professor, and containing separate lecture rooms, wards, laboratories, etc. This will form a magnificent "workshop," and a worthy setting for such jewels as Recklinghausen, Waldeyer, Hoppe-Seyler, Freund, Kussmaul, Luecks, Schmeideberg, Laqueur, etc.

This plan of separate instruction so foreign to the custom of American hospitals and medical colleges is very characteristic of the German universities. With all its advantages it presents certain drawbacks. Each professor works away apparently utterly and charmingly oblivious to the existence of his colleagues; for example, it is rather inconvenient for the man engaged in special studies here, to find the eye and ear clinics held at the same hour on the same days, in separate buildings 200 yards apart.

Apropos to the question that is at present exciting so much interest at home, viz.: our would-be brothers, the homœopaths, it might not be uninteresting to give some idea of their status here. The very fact that the question has received the attention it has with us, gives rise to undisguised astonishment here, and confirms the idea that seems to be prevalent among all classes here, that America is the hot house in which grows rank, every weed, political, social and professional. Here the subject is treated with a contempt that would be considered a little strong in even one of our "old wheel-horses" at home.

In Germany, its birthplace, Homœopathy seems practically defunct. The considerable ground that it gained during the earlier part of the century, is almost wholly lost, and as the centenary of its birth approaches, it looks as if hardly anyone will be left to do the celebrating. This has resulted from two causes—one, the cutting off of the demand; the other, a cutting off of the supply. In the first place the Germans are a very conservative, you might say old-foggyish people, very prone to patronize that which possesses authority, and from them homœopathy receives very little patronage. In the second place, the student intending to practice homœopathy here, must pass through the same rigorous course of medical education that all the students are compelled to. He must do his four years of university work; pass his two official examinations, one at the end of the second year, and the other at the close, and present his thesis. There is no telling how many students enter on this course with homœopathic ideas in their heads; but it is absolutely certain that few come out with any left.

None of the German universities give any official recognition to homœopathy. I noticed in a communication to the LANCET AND CLINIC some time ago the statement that some of the universities here had special professors, or *Privat-Docents* in homœopathy. That is a mistake. That state of affairs which did formerly exist in a few of the universities, does not exist to-day, so far as I have been able to ascertain. Vienna, however, does have an "auszerordentlicher," professor of homœopathy.

There is, however, a royal road to a diploma, which most of these aspirants travel; and that is America. I am informed that many of the practitioners of homœopathy in Germany practice on American diplomas; and my informant, one of the professors here, added with considerable sarcasm, that for all the American students who come here to imbibe the best that German science has to give, the only return that America makes, in kind, is these unwelcome rivals.

I have been unable to find a homœopathic physician in Strasburg. I have, however, found one in Bonn. He has a Philadelphia diploma, and his practice is confined almost exclusively to English and American residents. Bonn is famous for its schools, as well as its university, and many English and a few Americans reside here to educate their children. It is a striking commentary on the mental condition of people who can not find schools in England and America good enough for their children; that they can not find medical men good enough in Germany, but must be treated by a man with an American homœopathic diploma. DEBECK.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of September 11th, 1882.

WM. JUDKINS, M.D., *Vice-Pres't in the Chair.* W. H. WENNING M.D., *Secretary.*

Gun-shot Injury of the Brain.

DR. RAVOGLI read an essay in which he reported a remarkable case of gun-shot wound of the brain where life was prolonged nine days. The essayist also presented the pathological specimen showing the course the bullet had taken in its passage through the brain substance:

Katie Schroder, aged four years, a nice strong little girl, in good health, was accidentally shot by her little brother with a small pistol. The bullet struck the head of the girl on the arcus superciliaris on the left side of the forehead. The poor girl fell down unconscious, vomiting very frequently. The pulse becoming so low as to be scarcely perceptible. The wound, a little hole bleeding very slightly, presented a piece of cerebral pulp oozing out with the regular pulsations of the brain. It was useless to probe the wound; the cerebral pulp explained very easily that the bullet which had perforated the frontal bone, was situated in the substance of the brain. From this and the location of the wound, and from the consequent symptoms of cerebral compression it was clear the end of the ill-fated girl was approaching. A large ice bladder covering the head was applied. On the following day symptoms of compression of the brain continued. The child was in a state of deep coma. Vomiting was renewed during the night, the pulse very low, slow respiration, and the pupil of the right eye much more enlarged than that of the left.

In the evening of the second day the pulse became more rapid, the temperature arose to 102° F. The child quite unconscious was agitated, frequently placing her left hand to her head.

In the morning of the third day, the fever had diminished, the thermometer indicating 100° F. The child seemed to be refreshed as after having been woke up from a long sleep. After the administration of a saline purgative had passage, and no more vomiting occurred. At that time I could take better observations of the symptoms. The pupil of the right eye was quite dilated, the left being normal. She saw very well with the left eye looking at the people around her bed, smiling to her mother. The function of vision was lost in the right eye, which remained immovable upon passing the hand before it. The function of hearing was completely abolished, being indifferent to the voice of her parents or to any noise around her. The touch was completely destroyed on the right side from the head down to the right foot, being maintained and even intensified on the left side. Irritating the skin of the face with needles the child remained indifferent to the sticking till half way down the face, showing uneasiness when the irritation reached the left side.

The function of movement intact on the left side, was entirely destroyed on the right.

The appearance of the little girl was apparently so good, that the family began to say that the bullet had not entered the brain. Although the parents were so satisfied, I always maintained my fatal prognosis. Indeed, on the sixth day the fever appeared again, on the seventh she fell into a deep sleep, and after the eighth day she died.

I report accurately the symptoms of this terrible wound, in order to compare them with the pathological lesions, and to explain, if possible, to ourselves many interesting problems which arise in a wound of the brain. My good friend, Dr. Ransohoff, was so kind as to come with me for the post mortem examination.

Opening the head we remarked the hole on the frontal bone just over the arcus superciliaris of the left side, of the size of five lines, and bored without pieces. This hole corresponded exactly with the hole of the dura mater. The dura mater showed only an abundant vascularization in its blood vessels especially the veins and venous tissues, which were filled with dark, not coagulated blood. The brain was very easily separated from the pia mater, the left side of its surface appeared suffused by a reddish color. The hole of the bullet was situated just on the frontal protuberance corresponding to the hole of the frontal bone. Other than this there was nothing remarkable.

Introducing the knife into the wound we followed its path until the occipatal protuberance. The bullet entered from the frontal protuberance, passing through the white substance, making its exit through the occipital protuberance, situating itself in the same left corresponding occipital cavity on the tentorium cerebelli.

After the report of the post mortem examination we will try to compare the symptoms which we had opportunity of observing during eight days. The latest physiological studies on the brain have illuminated many problems which a few years ago were impossible to explain. That which seems remarkable is that with such a wound life could remain for more than eight days. We can explain that from the path pursued by the bullet right through the midst of the substance of the brain, which is filled by a great quantity of capillary blood vessels. The hemorrhage was insignificant, very little coagulated blood being found in the path of the bullet through the neurosed cerebral substance. If the bullet had met a larger blood vessel the hemorrhage causing cerebral compression would have been the cause of immediate death.

I never tried to probe the wound; the presence of cerebral substance outside of the external wound was enough to prove the entrance of the bullet into the cranial cavity.

When the first symptoms of the commotio cerebri were over and the child had regained conscience. the family began to doubt my diagnosis, believing that the bullet was not in the brain. But the symptoms which remained were enough to maintain the first diagnosis, enabling me to determine as to the character of the lesions which we found after death.

We know from physiology that if we remove the superior part of one of the hemispheres of the brain of an animal without touching the ganglia, the animal becomes sleepy, but no serious disorders are manifested in the movements and in the functions. In our case we found the vision of the right eye destroyed, paralysis of feeling and of movements on the left side of the body, loss of hearing, and a tendency to vomit. From these symptoms, I judged that the bullet had entered the lateral ventricle of the brain, injuring the cerebral ganglia and the cerebellum. You know from the experiments of Flourens and others, that injuring the tubercle quadrigemina of one side result in blindness on the opposite side. It is also well known from the experiments of Lussana and Renzi that the nuclei of gray substance of the same tubercula quadrigemina and of the thalami optici constitute the seat of movement. As regards the hæmianesthesia we know that in the cases observed by L. Türk the lesions had invaded the superior and internal portion of the optic thalamus, the third nucleas of the extra-ventricular portion of the capsula interna, their corresponding region of the radiating corona and the adjacent white substances of the posterior lobe.

In our case, from the existence of the complete blindness of the right eye, and the complete paralysis of the whole right side of the body, it was reasonable to infer the lesion of the organs presiding over these functions.

Furthermore, I sustained that the bullet injured the cerebellum. The post mortem examination showed that the projectile was situated on the tentorium cerrebelli. You know that in injuries of the cerebellum the first symptom is vertigo, which very often produces violent vomiting which is not preceded by nausea. In our case it was so very often repeated, that it aroused the suspicion of some injury to the cerebellum. How to explain the complete deafness? You know that the acoustic nerve has its origin in the anterior portion of she lateral ventricle of the cerrebellum. You know further from the observations of A. Stefani and G. Weiss that the three posterior circonvolutions of the cerebellum join together in a little knot of the same substance as the cerebellum. From this knot a little fasciculum arises, which, returning back, ends in the apparent origin of the acoustic nerve. Furthermore, it is known from physiology what an interesting relation exists between the cerebellum and the semi-circular canals, such that on pigeons where the semi-circular canals were taken off, followed the fatty regeneration of the last circonvolutions of the cerebellum. It is interesting that the lesion of one of these canals produces regeneration of the cells of Purkinje on both sides.

In consideration of these physiological facts arose the suspicion of some injury of the cerebellum, which suspicion was confirmed by the autopsy.

Fracture of the frontal bone in the shape of a round hole with regular edges was very frequently observed among victims of the late wars from the new kind of weapons used. The conical size of the bullet separate and distract the fibres of the bone, and can more easily penetrate into the cavity without breaking the bone in irregular pieces. The bullet entering the cranial cavity, a part of the brain is pushed out, as that cavity is completely filled by the cerebral mass.

Now, what was the absolute cause of the death? We saw that if a large blood-vessel had been injured, the blood accumulating around the basis of the brain ought to bring about immediate death. We had no hemorrhage, and for that reason life could be prolonged. Flourens, Longet, Magendie, Mattenni, after removing several layers of an hemisphere of the brain of animals, observed that they become sleepy, but after some time wake up as after a sound sleep.

Flourens' explanation is that the remaining part of the cerebral hemisphere can supply the functions of the portion removed. In our case we noticed that after the second day the little girl seemed awakened as if from a deep sleep; began to understand—to recognize the people around her. No primary meningitis followed that wound; the child remained quiet; no spasms; no excitement to occasion fear of the possible consequence. In the post-mortem examination, excepting the congestion of the blood-vessels of these membranes, no other pathological alteration was found. Encephalitis would have finished the days of the girl without doubt, but I don't think, that it was the last cause of her death. The brain, as you see, presents a certain degree of softening—appears very injected in its blood vessels, but we did not find a good deal of pus in the canal produced by the passage of the projectile. We remarked that at the end of the sixth day high fever appeared, which preceded by chills. After the fever the child fell in a deep stupor. I believe that these phenomena are to be ascribed to the entering of septicæmia. The substance of the brain destroyed and mixed with some extravasated blood growing putrid, reabsorbed by the blood-vessels and brought in the circulation again, supplied putrid material enough to bring on septicæmia. The tongue of the child became dry, darkly furred.

The fever continued until life was extinguished. In many cases of wound of the brain, Billroth remarked that septicæmia ends the life of the patient. In this case the same consequence ended the life of the ill-fated girl.

DISCUSSION.

Dr. Zenner remarked that the case just reported was a very interesting one in connection with the study of cerebral localization. But in this instance the injury is so extensive that it could scarcely be utilized for the establishment of the relation of any one function to a particular part of the cerebrum.

The speaker thought the essayist had gone too far in tracing the auditory nerve to a particular part of the cerebellum and making the latter organ responsible for the deafness following the injury. We, as yet, know very little of the central origin of the auditory nerve. At one time Meynert thought he could follow the central continuation of this nerve in the posterior longitudinal fasciculus of the crusta (*hintere Längsbündel der Haube*) to the neighborhood of the isle of Reil. But he later detected that this view was erroneous. All that we know of the central continuation of the acoustic nerve is that some of its roots enter the restiform body, in which they probably pass to the cerebellum on their way to the cerebral cortex. But in the present state of our knowledge we are certainly not justified in considering any part of the cerebellum as particularly connected with the sense of hearing, nor from the mere presence of deafness inferring a lesion of that organ.

The interesting clinical features of this case are the existence of paralysis of motion and sensation in one half of the body in connection with injury of the opposite cerebral hemisphere. The loss of motor power can be most easily referred to injury of the anterior, the anæsthesia to injury of the posterior portion of the internal capsule.

The most interesting symptom is the entire blindness in the eye opposite to the lesion. This symptom is also most easily explained by the injury to the posterior part of the internal capsule, which injury is often followed by hemianæsthesia, not only of the sense of touch but of all the special senses. But, inasmuch as the thalamus opticus, corpora quadrigemina, and occipital convolutions, all of which are connected with vision, have been also injured, we cannot insist upon the correctness of the above explanation.

As regards treatment the plan adopted by the essayist, that is, merely temporizing and not interfering surgically is the one advocated by the latest authorities. When this subject was brought up for discussion before a congress of German surgeons recently, two of their number, v. Bergman and Langenbeck, recommended non-interference; Langenbeck reported five cases of recovery thus treated; Kuster preferred to trephine, but the greater number of surgeons present concurred in the opinion of the former two gentlemen, in instituting no other than antiseptic treatment.

Dr. Ransohoff regretted that he had not seen the case during life, but was fortunately present at the autopsy. The examination was a good illustration of crossed paralysis, but as correctly remarked by the previous speaker, the extent of the injury proved nothing more than that injury of one side of the brain caused paralysis on the other side of the body. The lesion to the anterior and posterior portion of the internal capsule produced paralysis of motion and sensation. The occipital lobe itself was affected and this was supposed to be connected with the loss of sight. The essayist believed that vomiting was due to compression of the cerebellum; the speaker, however, thought, that this could not have been very great, because he had frequently seen instances where tumors in the cerebellum caused great compression and yet there was but little vomiting and no loss of hearing. Consequently this could not have been the direct cause of loss of hearing. The cerebellum was not compressed at all unless by the amount of blood in the track of the bullet.

As regards treatment no criticism could be made. Probing was out of the question and can only be sanctioned when the injury is very superficial. It is difficult to determine whether death was due to septicæmia or to other causes. The injury in itself was great enough to cause death without septicæmia. To illustrate, however, how great an injury may be at times and yet not prove fatal he would mention the following case. A child fell out of a second-story window and struck the pavement on its head. When it was picked up no external injury or bruise could be detected, except a linear depression in front of the coronal suture on the right side, running downwards and forwards. The eyelids were suffused and vomiting of blood and bleeding from the nose occurred. The child was unconscious, had paralysis of both sides, but afterwards the muscles on the left side began to twitch for a few minutes. A diagnosis of fracture of the base of the skull was rendered and the prognosis declared unfavorable. Nevertheless the child recovered perfectly without retaining a paralysis of any kind.

This case illustrates the fact that fracture of the base of the skull in children is not so dangerous as in adults.

Dr. Cassat narrated an instance where a boy was struck in the head by a falling shingle from an old house that was being torn down, a ten-penny nail was driven into the right side of the skull and had to be drawn out at its full length. The boy was insensible and the wound continued to discharge pus for some time. Yet the boy recovered and beyond a dragging gait in the foot of the left side there is no vestige of the injury.

Dr. Ravogli, in concluding the discussion, remarked that the functions of the brain were as yet veiled in obscurity, but we must try to explain these pathological problems from physiology. It is true that injury to the tubercula quadrigemina in the superficial layer produces blindness and in a lower layer paralysis of motion. If the bullet had injured the acoustic nerve at its origin from the pons Varolii death would have resulted immediately.

In answer to the remark made by Dr. Ransohoff that there could not have been much compression of the cerebellum, the speaker remarked that the weight of the bullet on this delicate structure was sufficient to set up symptoms of compression, whereas tumors of the cerebellum develop slowly so that the brain substance becomes accustomed to their presence. But when a foreign body, as a bullet for example, is suddenly placed there, the shock sets up symptoms of compression immediately.

Treatment could only be expectant. Even antiseptically not much could have been done. All that he could and did do was to apply ice and wait for nature's developments.

Selections.

RESEARCHES UPON THE ACTION OF HYOSCINE.

By Drs. Edlefsen and Guanek.

A Translation from the *Recueil D'Ophtalmologie*, February, 1882.

By H. Culbertson, M.D., Assistant Surgeon, U.S. Army, Retired.

This article is translated because of its value to oculists and physicians.

We select from the *Therapeutique Contèmporaine Médicale et Chirurgicale* the following article upon hyoscine, translated from the *Centralblatt. f. Med. Wochenschrift:*

In an original article, dating several months since, MM. Edlefsen and Ilhing have considered the properties of chlorhydrate and iodhydrate of hyoscine. On the other hand, in a memoir read before the Society of Physiology of Berlin, at its session of the 1st of July, 1881, Dr. Rudolf Guanek demonstrated that there are notable differences in the mode of action of atropine and hyoscyamine, and he has been led to employ hyoscine resulting from the double decomposition of the hyoscyamine and to compare the action of these two alkaloids.

According to Ladenburg, after the trophic acid and hyoscine has been separated from the hyoscyamine, the hyoscine preserves wholly the properties of the primitive alkaloid, or when united with the acid approaches more or less those of atropine. Ladenburg has demonstrated the perfect isomerism of hyoscine and atropine, and that nevertheless their action presents marked differences. We are bound to conclude that this double decomposition gives rise to special properties which are the result of chemical combination.

Dr. Rudolf Guanek, in his researches upon the different properties of atropine and hyoscyamine, has pointed out the calming and soporific influence and the difference of energy in the phenomena produced upon the intra-cardiac terminations of the vagus nerve.

The subjects have been persons in good health or sick, and especially the insane; because the therapeutics of those mentally diseased, as in the latter class in question, have a special importance. As has already been demonstrated by Adelfsen, there is a chlorhydrate and an iodhydrate of hyoscine. The last is much more pure resulting from the form of crystallization.

The author has followed the indications of Adelfsen and he has observed that with small doses the symptoms are totally different from those which follow the administration of hyoscyamine. The hyoscine acts with an energy ten times greater than the hyoscyamine; under these conditions it approaches atropine in its effects.

The hyoscine has been given internally and subcutaneously. For the first mode of administration we employ one centigramme to two hundred grammes of distilled water (*i.e.*, $\frac{1}{6}{\cdot}_{6}$ of a grain to 3000 grains = 6¼ f℥ water); and for subcutaneous injection a solution of one centigramme ($\frac{1}{6}{\cdot}_{6}$ grain) to ten grammes of distilled water = 150 grains or f℥ ijss aqua. This is a little larger than the doses for atropia.

The following are the symptoms observed: Headache, vertigo, dazzling of the eyes, apparent intoxication, thirst, dryness of the throat, malaise, sourness of the mouth, shivering, warmth, difficulty and retardation of respiration, redness of the face, mydriasis, unsteadyness in walking, delirium; all of which phenomena are produced equally by atropine.

At first there is fatigue and a tendency to sleep as after the administration of hyoscyamine.

Never, even with larger doses, has there been, as with hyoscyamine and atropine, an acceleration of the pulse; on the contrary, the retardation is constant; in fact it is proportional to the dose and the impressibility of the individual. These symptoms are especially interesting.

From all these considerations we are able to draw certain deductions. Thus the action of hyoscine is quickly developed, but lasts only for a short time; even in very small doses this substance produces one or other of its energetic symptoms. The same quantity does not always act in the same manner with the same subject. It is possible that a dose habitually well-borne may produce at a certain moment complications; however, in a general manner, there is a direct relation between the intensity of the symptoms and the quantity of the medicine given.

As to individual susceptibility upon which Edelfsen has already insisted, we should remark that certain individuals support badly one-tenth of a milligramme of hyoscine subcutaneously injected, while with others two and one-half milligrammes produced no unpleasant effects. The author has found more persons supporting it badly than well.

Given by the digestive organs hyoscine acts substantially as when given subcutaneously; the doses which we have been able to give in this manner are one-half or one-third that we introduce under the skin.[1] The internal use presents another inconvenience, the moment when the effect is produced is absolutely uncertain; moreover, these may follow by starts; it is irregular and quite varied in its action.

Under these several conditions, the moment when the action supervenes varies from two to sixteen minutes; it never results before sixteen minutes when administered by the mouth. In general the effect is more marked the larger the dose; it is necessary to consider the susceptibility of persons, because in certain individuals we see serious phenomena two minutes after the administration of one-tenth of a milligramme. First in order among the symptoms observed is the slowing of the pulse, it falls to a certain number, and rarely rises to the normal degree, and remains slow during quite a long time, even when all the other symptoms have disappeared. This diminution of the pulse varies from eight to twenty pulsations; the maximum is reached after about ten to twenty minutes, and the same time is at least necessary that it may return to its natural frequency.

At the same time a sensation of pressure or weight is observed in the head, more marked in the frontal region and in the balls of the eyes. The thirst, the chilliness, the sensation of heat, etc., supervene at the moment when the slowing of the pulse is at its maximum. These phenomena disappear when the circulation has returned to normal, or else they augment, and then we observe the vertigo, the uncertainty in walking, etc. All disappear after about an hour; when there remains only an unusual feeling in the head. When the influence of the remedy is more marked, there is a delirium having exactly the same character as that of atropine and of hyoscyamine.

Mydriasis is frequent, but not constant; it begins habitually when the pulse begins to return to its normal frequency and it augments gradually; in doses even larger, it is always less marked than pure hyoscyamine. Its progress is in pace with that of the somnolence; when the pupil remains contracted the latter does not appear. With others, the dilated pupils always react under the impression of light, and the mydriasis does not augment under the influence of sleep.

Fatigue follows after five to ten minutes when the pulse develops in frequency, until sleep supervenes (after one or two hours). The latter is quiet and deep. If the patient is awakened he is always fatigued and unsettled. The heaviness of the head often continues all the day, it is attended with dizziness and an acid taste in the mouth; the next day we sometimes find slight attacks of vertigo.

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[1] If this is correct it is the reverse of what is usually observed in hypodermic and stomach medication.—Translator.

From observations made in health upon men, it is concluded that hyoscine differs from atrophine and hyoscyamine in that there follows from it a slowing instead of an acceleration of the heart beats; it approaches more to atrophine, according to the quantity employed and the intensity of the consecutive phenomena. In this respect, the action of hyoscine surpasses that of atrophine. Thus larger doses of the latter are necessary to produce a slightly marked heat and redness of the face, while very minute quantities of hyoscine determine these. Moreover, hyoscine has a soporific effect which atrophine has not, and which is also common with hyoscyamine; and we remark, moreover, that to obtain it, much smaller quantities of the latter suffice. Most of the consecutive symptoms are less important and the sleep does not last so long as that from hyoscyamine.

It is very probable that the slowing of the heart-beat is caused by sedative influence upon the vagus. It is therefore necessary to admit an irritation of its peripheral terminations. The same phenomena are observed slightly after the administration of hyoscyamine, and when given in very small doses; but soon, the period of excitation ceases and ends in the paralysis, such as would be the case under the influence of diverse agencies. It is probable that the trophic acid, the second product of the double decomposition of hyoscyamine, takes part in the action exercised upon the vagus and aids the hyoscine in the paralysis.

We observe also that the sleep is produced especially by the alkaloid and not by the acid. It is difficult to decide if there is only one relation existing between it (sleep) and the symptoms determined in the sphere of the vagus; this seems probable, because the fatigue and what follows develope regularly and gradually after the excitation has ceased; it is the same thing with hyoscyamine, the sleep developes after the paralysis of the vagus has passed off.

The hyoscine, acts in one tenth the dose of hyoscyamine. Thus, with a sub-cutaneous injection, we are enabled to obtain effects with one-tenth of a milligramme; with hyoscyamine at least one milligramme is necessary; the maximum dose of the first is in milligrammes; that of the second, two centigrammes. Moreover, the consecutive accidents with hyoscine are much more serious than with hyoscyamine. If we disregard the soporific effects, we will find, with Edelfsen, that the hyoscine is much more like atrophine than hyoscyamine.

We require now to know if hyoscine can be employed with advantage in cases of mental diseases; we know that often in such cases it is necessary to give doses of narcotic remedies much larger than under other circumstances. The action of hyoscine is energetic; but the considerable differences in the impressability of individuals, and the nature of the consecutive accidents render it doubtful if we are able to employ this medicine, which seems to be so difficult to administer in medium or moderately strong doses.

A few days since we received an importation from Dresden of this salt, the iodhydrate of hyoscine, and have been using it in a solution of gr. ½ to aqua dist. f℥.

Dr. Davis of this place, has been using this solution, also, at my suggestion, in a case of acute mania, with marked success.

He employed ten drops of the solution hypodermically and in five minutes the patient went to sleep, which state continued for eight hours. The injection was repeated and she slept again six or seven hours. He has given twenty-five drops of this solution by mouth and although it produces sleep it does not seem to act as efficiently as when used beneath the skin. After three days use of the agent in fifteen drop doses hypodermically at intervals, two or three times daily, or when the patient would awake, she is now quite rational. In the beginning her pulse was 140, and under the influence of the agent, it was reduced to 80 per minute.

Dr. Ball, of this place, informs me that he has given this agent by mouth in ten drop doses, of a solution gr. j. to aqua dist. f. ℥ j., with success, in a case of neuralgia. The dose was repeated three times daily. He thinks it may take the place, to a certain extent, of morphia.

He also has used ten drops of the same solution by mouth, in an adult man, dysuria, who has mitral disease of the heart, of several years standing. The patient took one dose in the morning and another in the evening, and after the second dose he became delirious and remained so for ten or twelve hours. His heart action from being, as usual, intermitting now became uniform and steady, and the frequency of the pulse was normal.

He revived from the effects of the agent, and no ill consequences followed its use.

Dr. Ball reports another case of an adult lady, who has an abscess opening into the rectum, and who has been taking thirty-drop doses of Magendies solution of morphine endermically to relieve the pain associated with the disease. He gave five drops of his solution, gr. i. to ℥j., with ten drops of the morphine solution. Within in five minutes she became delirious and excited, and did not know any one; had hallucinations, and her face became flushed and pupils widely dilated. Her pulse, which was small and feeble, now became strong and full, but no slower than before the agent was given. In twelve hours she regained consciousness, but is free from cough, is comfortable, and her pulse was still strong and steady; she felt better and stronger than for months.

The Doctor thinks it acts as a heart-tonic, and that he can give it with morphine and thus diminish the dose of the latter to relieve pain.

We have used this agent in several cases as an *eye drop* employing the same solution—gr ½ to aqua ℥i.

Case 1. An adult man.

V. L.=light-perception only.

$$V.\ R. = \frac{12''}{\text{viii.}}$$

Two drops in each eye. R. pupil dilated largely, in 12 minutes; L. pupil in 24 minutes. Subsequently the dilatation seemed to extend to within two lines of the corneal margin.

Case 2. A girl æt. 15 years—hyperopic and astigmatic.

$$\left.\begin{array}{r} \text{V L}=\frac{15'}{40'} \\ \hline \text{V R}=\frac{15'}{30'} \end{array}\right\}\ \text{V }2=\frac{15'}{30'}\ \text{Unaided.}$$

Using two drops of above solution in each eye, in 12 minutes the R pupil was well dilated and iris immobile, and in 15 minutes the L pupil was well dilated and immovable, and in each pupil the dilatation took place rapidly during the last three minutes before the enlargement. Finally, the dilation seemed to be within a line of the corneal margin.

At twenty minutes eyes tested:

$$\left.\begin{array}{r} \text{V R}=\frac{15'}{70'} \\ \hline \text{V L}=\frac{15'}{70'} \end{array}\right\}\ \text{V }2=\frac{15'}{70'}$$

As, now, the smallest types she could read was made out only at a single distance, and no nearer, it is evident the ciliary muscle was then paralyzed. Now with

$$\left.\begin{array}{r} +30''\text{s} \supset +37''\text{c axis } 90^\circ \text{ V. L.}=\frac{15'}{20'} \\ \hline +24\tfrac{1}{2}''\text{s V. R.}=\frac{15'}{20'} \end{array}\right\}$$

and $\text{V }2=\frac{15'}{20'}$. Her near vision to be tested on her return when the effect of the mydriatic has passed off. Twenty-four hours later, the effect on the pupil is beginning to decline and pupils slightly movable. In three days the influence had entirely passed off.

Case 3. A girl æt. 18 years.

$$\left.\begin{array}{r} \text{V. R.}=\frac{15'}{50'} \\ \hline \text{V. L.}=\frac{15'}{15'} \end{array}\right\}\ \text{V }2=\frac{15'}{15'}\ \text{Unaided.}$$

Used two drops of the above solution in each eye. In 9½ minutes the left pupil was dilated largely but movable. At 15 minutes the right pupil was well dilated, but slightly active. Both pupils dilated during the last three minutes of these periods. At 20 minutes both pupils enlarged alike and to about one (1) line from the corneal margin. Now, with

$$\left.\begin{array}{r} +74''\text{s} \supset +74''\text{c axis } 80^\circ \text{ V L}=\frac{15'}{15'} \\ \hline -18''\text{s} \supset -30''\text{c axis } 170 \text{ V R}=\frac{15'}{40'} \end{array}\right\}\ \text{V }2=\frac{15'}{15'}$$

She is to return for near vision to be estimated, when the influence of the agent has passed off.

Case 4.—An adult lady; has now adhesion of the iris, at one point, to the anterior capsule several months subsequent to a cataract extraction. Irritation of the eye was induced from this adhesion. We employed the above solution in two-drop doses every three hours in the eye. The pupil soon dilated as fully as it had done previously from duboisia and remained enlarged. No constitutional symptoms observed.

Case 5.—A girl seven years old has leucorrhœal purulent conjunctivitis with marginal ulceration at, and of, the lower border of the cornea. Used, with other agents, two drops of above solution every three hours. The pupil is largely dilated to about within one line of the corneal margin. The ulcer is healing, and there have been no constitutional symptoms during two days from the remedy. Two day's later the conjunctivitis was healing rapidily, all chemosis and swelling of the conjunctiva and eyelids disappeared and the ulcer in progress of cure.

Case 6.—In the case of hyperopia in a single lady, æt. 32 years, used two drops of above solution in each eye. In twelve minutes the right, and in fourteen minutes the left, pupil was largely dilated and immovable. The enlargement of each pupil occurred during the last three minutes of the period, and at twenty minutes each pupil was dilated to within a line of the corneal margin, and at twenty-five minutes each ciliary muscle was paralyzed. No unpleasant effects followed the use of the remedy.

I find an allusion to this mydriatic in the July, 1882, number of the *American Journal of Medical Sciences*, page 302, as follows:

"Dr. Emmert, of Berne, (*Correspondenz-blatt*, January 15th) has made a series of experiments on the pupil—dilating powers of the hydriodate of hyoscin, a crystalline salt obtained by treating hyoscin, with hydriodic acid. Hyoscin is an alkaloid obtained from amorphous hyoscyamin. The results showed that the new salt acted more energetically and more rapidily that either sulphate of atropia or duboisin. The solution need not be stronger that 1 : 1000, and even then is more active than the half per cent atropia. It is also less poisonous than the latter." . . .—*Practitioner*, 1882.

We remark that the expense of this article is even now no greater than duboisa, as so little of the agent is required.

Zanzesville, O., Sept. 9th, 1882.

Some Facts Explained by Modern Pathology.—Hugo Engel, A.M., M.D., Fellow of the American Academy of Medicine, etc., etc., writes as follows in the *Boston Medical and Surgical Journal*:

The old "Humoral Pathologists" were by no means so very wrong. They imagined the existence of a morbid fluid, causing the process of disease according to the locality this fluid either selected for its seat or where it was deposited *nolens volens*. So in cases of acute articular rheumatism, if the inflammatory swelling abruptly left the affected joint and the malady assumed the character of cerebral rheumatism, they said that the morbid rheumatic fluid had been carried by the circulation from the joint to the brain. This is only one instance of the old theory of humoral pathology. They gave to the word "metastasis" its modern definition. They recognized, however, the morbid agent as an entity, and while, with their limited means of investigation, they were not able to detect the real causing element, they supposed—and with perfect right—that the pathogenic substance was a foreign body, a something not belonging to the economy of the healthy animal organism, but either developed in the latter by some unknown process of decomposition, or carried from the surrounding atmosphere by way of the respiratory passages, or with fluid or solid nourishment through the alimentary canal into the human system.

Modern science at last has been able to demonstrate *ad oculos* the micro-organisms which cause so many diseases, and which induce a different train of symptoms according either to their own natural peculiarities or to the part of the organism which they have selected as their proper habitation. These parasites have their preferences. While some find the mucous membrane of the throat suitable to their further development, others thrive best where they can get the pure arterial blood from its first source, in the capillaries of the parenchyma of the lungs; others again seem to like the unadulterated nourishment, as it is ready for them and prepared in the absorbing vessels of the intestinal canal, and again others are not so very particular; they settle down wherever accident has carried them and, as if not satisfied with their abode, they generally try to leave it soon, under great disturbances created in the system at large, by the skin. But they all have one quality alike; sooner or later they feel and make themselves at home (except those last mentioned), and if the tissue, in which they are determined to reside does not willingly accommodate itself to them, they accommodate the tissues to themselves; and in either case the inevitable consequence is that morbid change—first local, but on account of the rapacity and great power of reproduction of these microscopic organisms, presently general—which characterizes the disease caused by these destroyers of the animal kingdom, and especially of the enlightened human race, and of the domestic animals so necessary for the existence of civilized mankind.

The truer a theory, the more clearly facts can be explained for the solving of the mystery of which the theory has been called into life; or, in other words, if for the purpose of elucidating the cause—the why and wherefore of certain occurrences—a theory has been set up, the more such occurrences are explained by this theory, the less is left in mysterious darkness by it, the more correct the theory will be; and as long as every fact connected with the latter finds its explanation by the same, so long will this theory have the advantage over all others, and will, in its special branch of science, be the dominant theory of the day. Humoral pathology left too many facts unexplained; "poisoning" of the nerve-centres, "poisoning" of the life-giving, circulating fluid, were ideas which were not clear and did not penetrate into the real origin of matters. Cellular pathology helped to enlighten our mind greatly on the complicated processes of the different morbid lesions, but it was not till the discovery of the micro-organisms as the causing element of the great class of infectious diseases, that we were able to fully understand many heretofore unexplained facts.

It will be our object in the following to mention a few of the more important points, and to bring together in causal connection certain morbid processes, formerly mysterious, and certain phenomena, till then not understood, with this modern theory of the pathology of infectious diseases.

For a long time it had been observed that when two persons had been married, and the one, who perhaps came from a tubercular stock, say the husband, had at last fallen a victim to tuberculosis, the surviving wife would the sooner be attacked by the same disease, even if she always had been in perfect health and without any hereditary tendency, the more she had come in contact with her husband during the time he had suffered from the phthisical malady. This fact has been so well established that if the wife of such a husband had been sleeping the last year of his life in the same bed with him, if she should have nursed him and swept the room in which he lived, in nine cases out of ten the prognosis would become true that the wife will die within three years from the same complaint. That therefore tuberculosis must be a contagious disease was clear, but the fact was then only fully explained when Koch (*Deutsche Medicinal Zeit.*, iii., 16, 1882), was able, by a peculiar coloring process of his own to visibly demonstrate the tubercle-bacilli as the pathogenic cause of tuberculosis. He showed that the phthisical sputa expectorated and derived from a tubercular cavity were full of these bacilli, and that such sputa, even if perfectly dry, powdered, and kept for the period of several months in the common temperature of rooms, when wafted into the air and inhaled by guinea-pigs, as certainly caused tuberculosis as if these animals had been directly inoculated with true tubercular matter. He was able to prove even in these dust-particles the presence of the tubercle-bacilli, and in a state ready for reproduction. But with sputum not containing these bacilli, no matter from what other source derived, he could never produce the same disease, while his experiments with sputa containing these micro-organisms never failed in a single instance to cause tuberculosis in animals that inhaled them.

Have we not here a plain and undeniable explanation why the surviving member of a married couple will fall sooner or later a victim to the same tuberculosis which had already destroyed the life of the other member? Koch was also able to prove, from the remarkably slow growth and the slow development of these bacilli, how it is that the disease under certain circumstances has such a long period of latency, of incubation, runs frequently so slow a course, and then again, how by the death of the bacilli it may come even to a stand-still. Why, notwithstanding these tubercle-bacilli, which especially in large cities must be very abundant, so many persons escape, is a question not so difficult to answer. First, there are persons enough who fall victims to tubercular consumption; one-seventh of all the people born, and one-third of all in the prime of life, die of this frightful malady; and second, some individuals possess a vitality, a power of resistance, strong enough to prevent these micro-organisms from taking hold in their system. There exist, without doubt, specially favoring conditions under which the tubercle-bacilli, as well as all other bacteria, may find a good culture soil in the system invaded and flourish,—as interruption of the continuity of structure in the mucous membranes, catarrhal affections, alterations in the epithelium, a peculiar composition of the blood, etc., etc. The same circumstances which protect some persons from the many infectious diseases secure others undoubtedly against the inroad of tuberculosis.

That, however, only comparatively few escape may be inferred from the statistics above mentioned, and from the following. If we remember that many patients suffering from tuberculosis are cured of this complaint, or that others, after the disease has come to a stand-still in them, later die of some other malady, and that frequently the interests of the family of the deceased, as life insurance, etc., induce the issuing of a certificate naming another lesion as cause of death, and that ignorance often may do the same, we shall not be so very wrong in supposing that the number of deaths by tuberculosis, as given us by statistics, does by no means represent the actual number of persons who, at some time or other of their life, had been attacked by tubercular phthisis.

That so many of the human race suffer from this complaint cannot be wondered at, and will be explained if we look for a moment at some of the other results of Koch's researches, and of those of some of his co-laborers and successors in this field, as Cohnheim, Baumgarten (*Centralblatt f. Med. Wissenschaften*, 1882, No. 15, p. 1, *et seq.*), etc. Not alone that they showed us the great danger of allowing phthisical sputa to dry and to spread, one might say, all over the earth, forming in this way, perhaps, the greatest source of infection, but they demonstrated by their investigations that almost all our domestic animals, from the horse and cattle, down to chickens and pigeons, were often attacked by tuberculosis; that it was very frequent among them; that the so-called *Perlsucht* was simply another name for the same disease; that all so-called cheesy degenerations were neither more nor less than the addition of tubercle-bacilli to an already existing inflammatory process; that undoubtedly chickens affected with tuberculosis were frequently eaten, especially as in these, in the beginning, the complaint was not easily recognized; and they proved, by their experiments, that animals fed on such meat, all died of tuberculosis, and lastly, that the milk of cows suffering from tubercles contains the characteristic tubercle-bacilli, and is, therefore, a prolific source of the contagion.

Is the frequency of tuberculosis in the human race now explained or not? Shall we still wonder if suddenly in a family, till then free of the taint, this dreadful disease breaks out, and that after the first others soon fall victims to it? The light thrown upon this subject by these indefatigable investigators must stimulate us in all such cases to detect the source from which the infection originally was derived. Our present knowledge must incite us to increase more and more our power of preventing maladies, and one of the greatest triumphs of modern medicine will be when we have succeeded not only in curing such infectious diseases by discovering bacillicides, but in stamping out this malady, and driving its living cause from the face of the earth.

How long have we been in the dark in finding a cause for the fact that different epidemics of the same disease differ in their severity and character; that the first attacked in a locality by some acute infectious disease, epidemic at the time, generally represent the malady in its worst type, and that towards the end of the epidemic in a given district the complaint assumes a far milder form? The researches of Pasteur especially have explained this fact. If, for instance, a drop of blood of an animal suffering from anthrax is taken and added to a test-tube full of pure beef or chicken tea, and this glass is hermetically closed and kept for any length of time at the common temperature of rooms, and, if, say, after a month or two, one drop of this infected solution is added to a fresh quantity of beef, mutton, or chicken tea, similarly preserved and kept, and if this experiment is repeated any number of times, one drop of the solution last prepared will just as certainly cause the severest form of anthrax in an animal inoculated with it as a drop would of the undiluted blood of such an infected animal.

But expose each solution for about a week or two to the action and influence of the atmosphere, before a drop is taken from it to make a fresh solution, and repeat the same experiment in a similar manner a great number of times, it will then be found, provided each solution has been exposed for the time mentioned to the atmosphere, that each succeeding solution, on inoculating an animal with it, will cause a milder case than its predecessor, and at last a solution will be obtained which, while producing no visible general disturbance, and almost none or at least a very trifling local one, will as effectually protect the animal inoculated with it, for a specified length of time, from an attack of anthrax, as vaccination protects a human being against variola.

These experiments explain why some epidemics are severer than others, why the first victims generally die, and why persons at last may become acclimatized and not be affected any more by infectious diseases especially prevalent in a given locality. In a severe epidemic of yellow fever, for instance, the poison of this disease is in the beginning of an outbreak most powerful; at last it is not able to cause the fever any more, but is still of a sufficient strengh to inoculate those who have escaped it, and who continue to reside in the infected locality, effectually enough to guard them from an attack of the disease should it reappeared. The secret of acclimatization is thus explained.

It might be well in localities like New Orleans, Havana, Memphis, etc., where yellow fever may be said to be endemic, to take a drop of blood of a person suffering from the disease in its severest form, and while the malady is at its acme, and to form solution after solution, in the manner indicated, and under exposure to air, as described, till at last a solution is obtained of which a drop, if injected under the skin of a sensitive animal, would not cause more than the slightest local irritation. At the approach of an epidemic, or in the beginning of its outbreak, non-acclimatized persons should be inoculated with this solution, and do not doubt that, if analogy warrants conclusions, such a procedure would protect these persons as effectually against yellow fever as vaccination does against small-pox. The experiment might be made so as to bring no danger from the operation to the inoculated individual.

The investigations of Klebs with reference to the bacillus typhosus have, I think, fully demonstrated that the lung and brain complications of typhoid fever, and the enlargement of the spleen as well as the oozing hæmorrhages, are not accidental occurrences, but that they are caused by the presence of the bacilli in the lung tissue, in the pia mater of the brain, in the spleen, and in the perivascular spaces of the capillaries of the intestines. We know now that an epidemic of typhoid fever may exist where the lung complication forms the disease, and where the abdominal symptoms are mostly absent. Klebs found in such an epidemic at Prague, that the infection had solely been caused by inhalation; the mucous membranes of the nose, pharynx, air passages, and the lung tissue itself were full of the bacilli in every stage of development, while in the intestines a few only could be detected. But commonly the infection takes place by the water or the milk we drink, or by the food we eat, and, therefore, the abdominal symptoms of enteric fever are usually the most developed, and it is from these that the bacilli may travel to the other parts of the body; while, if the infection has been caused by inhalation, the primary lesion is found in the lungs, and from here the bacilli reach remoter parts of the system. This explains also why diarrhœa in typhoid pneumonia is—and justly so—very much dreaded; this diarrhœa is simply an indication of a more general infection, of the bacilli not having settled alone in the lung tissue, but also of their presence in large masses in the intestines, increasing thereby the danger of the disease.

For the development of the different forms of necrosis, as so frequently observed in diabetes mellitus, many causes used to be given. Want of water in the tissues or in the blood, and the substances circulating in the latter, as sugar, aceton, oxalic acid, etc., have all been named as causes. Kraake,[1] however, has proven that for the serious character of these gangrenous and ulcerative processes the presence of air, or rather the presence of bateria in the latter, is essential, and he reports in the journal cited the following case in support of this view:—

In a diabetic man, fifty-three years old, an enormous carbuncle formed on the left side of the head. The large quantity (five litres) of urine passed daily contained four sixteenths per cent. of sugar. The throwing off of the gangrenous particles after the carbuncle had been laid open with the knife went on favorably, with little increase of temperature. But suddenly, apparently after a slight pressure, on the right biceps and in the left side of the abdomen, hard infiltration was felt; a week later fluctuation followed; the pus was let out; the patient became worse, and twenty-four hours later he died. In the pus were found immense numbers of micrococci; large masser of diplo- and streptococci were observed between the muscular fibres and in the walls of the abscess cavities, and the lungs and spleen were full of them.

Weigert[2] reports a similar case, where, within a short time, an enormous quantity of bacteria was spread over the whole body. While evidently the same causes produce a development of micrococci in a person affected with diabetes, as in any other individual, the blood of such a patient presents, without doubt, specially favorable conditions for the rapid propagation of them, and we have hereby explained the fact why such an ulcerative process, if once begun in a diabetic person, leads so rapidly to a fatal end. We learn from this fact that in such an individual we must pay the utmost attention to the asceptic treatment of the smallest wound; that even a simple scratch must not be neglected, and the minutest details of a perfectly antiseptic procedure must be insisted upon, if we wish to prevent the fearful invasion of the whole system by bacteria, and to save the life of patient.

These bacteria have been met with in all septic disease. There seem, however, to exist special forms of micrococci for every septic process, from the plainest septicæmia to the worst case of puerperal peritonitis. It has been observed by Karewski[3] that the lochial discharge is a fluid in which bacteria especially thrive; that a drop of it exposed to the air outside the vagina for a very short time is immediately infected and soon alive with them, and that they very rapidly propagate themselves, and keep their vitality a long time, even under adverse circumstances. Some lochial discharge, free from bacteria, was kept under aseptic precautions. Repeated examinations proved its asceptic condition. Karewski then examined with his finger the sexual organs of a woman suffering from puerperal fever, which ended fatally. A pure culture-fluid in which he dipped this finger became full of bacteria. After two weeks, having washed his hands frequently during all that time, and in the usual manner, with soap and water, he brought the same finger in contact with a part of the lochial discharge, and then cleaned the finger with a ten per cent. solution of carbolic acid. After having washed the latter off again a number of times he brought it in contact the next day with the other half of the asceptic lochial discharge. In a week the first lochiæ were full of the same bacteria, their development being rapid; the second half was still an asceptic fluid, both having been protected in the usual careful way against the influence of the atmosphere.

Can we wonder why puerperal fever, if once broken out in a hospital, spreads so rapidly, and that it is sometimes best to tear such a building down? Do Karewski's observations not explain why physicians sometimes have remarkably bad luck with women they deliver, one after the other dying in succession of the same puerperal fever? Does it surprise us that since the more general introduction of asceptic procedures we hear less of puerperal fever? Is a physician not criminally neglectful who does not use all possible antiseptic precautions when delivering a woman? Those old physicians are right who contended that such women pass with the greatest safety over their confinement in whom the natural delivery has least been meddled with, and who have, as concerns the sexual organs and their manual examination, been left alone. Why are cases more dangerous and more frequently followed by puerperal fever in which the forceps have been used, even if only to accelerate the passage of the head through the vulva in a normal birth? How many of these instruments are kept strictly aseptic or are made so immediately before their use?

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[1] Centrlbl. f. d. Med. Wissensch, 1882, No. 14.

[2] Ibidem.

[3] Zeitsch. f. Geb. and Gyn., 1882, No. 7. p. 331, et seq.

Do these investigations and discoveries not open our eyes to a great many evils which it is in our power to remedy?

A great deal has been done already, but still more has to be achieved. With the progress of our knowledge in pathology our art of healing has so far not quite kept even step. Certainly I have mentioned in the foregoing a few instances only of the clear explanations modern pathology has given to hitherto obscure facts, but I shall have gained my purpose if I have been able to draw the attention of others in the same direction. Only a thorough knowledge of all facts and circumstances bearing upon and surrounding a case can produce in a physician that certainty of action which ever will be wanting where speculation takes the place of established facts, but which alone can make us successful in our endeavors to "heal all ills human flesh is heir to."

In England, France, and Germany, the whole population begins already to reap the benefit of these important achievements of modern pathology. In Berlin a commission exists, the members of which are the most prominent physicians, lights in our science and art, who have to instruct the government in the principles upon which public hygiene should be based; they form a coordinate branch of the goverment, and their decrees are carried out with all the machinery the executive authorities have at their command. In this way, from one common centre, the regulations are distributed to all medical boards established in every state, province, city, and county, and they all supervise the execution of these laws, report their effects, and in return again advise the Central Commission.

A Case of Feigned Eruption. — H. W. Stelwagon, M.D., Philadelphia, reports the following which we extract from the *Archives of Dermatology*:

The dearth of published cases of fictitious eruptions would lead one to infer that they are extremely rare. During the past few years, however, reports of several cases have appeared in the current medical literature, and attention having thus been directed to the possibility of such eruptions, it is probable that future observation will disclose the fact that this class of affections is by no means a small one. These cases probably fall under the notice of the general practitioner or neurologist, from the fact that the skin manifestation is completely obscured by symptoms of seemingly grave constitutional disorder, and the eruption thereby escapes attentive observation. In other words, hysterical patients, in whom these feigned eruptions are generally observed, only accidentally reach the dermatologist.

The following curious case came under my observation a few months ago at the Philadelphia Dispensary for Skin Diseases:

The patient, a female, aged nineteen, was brought to the dispensary in regard to an eruption which had persisted almost uninterruptedly for several months. The extent, character, and configuration of the lesions were as follows:

On the anterior aspect of the left forearm were two parallel elongated crusted patches about three inches in length, one-third in width, and one-quarter inch apart. The crust was thin, dry, dark reddish-brown, closely adherent with the edges slightly everted, and, excepting a slightly marked inflammatory border, made up the whole of the patch. In general appearance it looked very much like the soiled "stuck-on" crust of impetigo contagiosa, except that it was, of course, darker. On the extensor surface of the same forearm were two similar parallel patches, only differing from the former in being shorter and having a softer crust. In the groove of the elbow was a small abraded eczematous-looking spot. The other forearm, on its anterior surface, presented the same condition as its fellow, *i.e.*, two parallel patches of the same length and character. The crusts, however, were much softer, and lighter in color, and the border more inflammatory, showing that the lesions here were more recent. The dorsal surface was free.

The tibial surface of both legs showed the same peculiar parallel-crusted patches, shorter but in other respects similar. These were evidently less recent than the others, as in places the wafer-like crust had fallen off; the underlying skin was healed, but somewhat reddish. In the left instep was an erythematous spot showing the site of an old patch. This constituted the whole extent of the eruption. Other patches had existed, but had disappeared. The regions described, however, were the only parts on which lesions had ever appeared. After the nature of the trouble became known the genital region was suspected, but was found entirely free. The lesions were all superficial. The patient was pale, nervous, and was suffering with loss of voice. The past history and existing general condition of the girl showed unmistakable hysteria. According to the statement of the woman accompanying the girl, and with whom the patient lived, the case had been treated at several dispensaries, at various times, but with only temporary improvement. The eruption would seemingly improve while under treatment, but would reappear as soon as medical treatment was withdrawn. The eruption had mostly been in parallels. The character and behavior of the lesion pointed decidedly to its artificial production. This supposition was strongly confirmed by the existing hysterical condition. The nails were suspected but were so closely bitten off that they were really harmless. After having the case under consideration for several days the confidence of the patient was won, and upon accusing her bluntly of the true nature of her trouble, and assuring her that the fact would not be disclosed, she confessed. The lesions were produced by constant rubbing with the finger ends—by the forefinger and middle finger. But little force was used, and the rubbing was slow, but was kept up for an hour or more. She stated that the operation was not painful, but, on the contrary, the sensation was to her an agreeable one. Her object was not so much to create sympathy as to obtain the pleasant sensation the rubbing gave her; besides, the impulse to rub was at times almost irresistible. The result was a slight dermatitis, and, in consequence, the crusted lesions described above.

PARASITIC NATURE OF CEREBRO-SPINAL MENINGITIS AND THE INFECTIOUS NATURE OF THE ACCOMPANYING NEPHRITIS.—M. Ernest Gandier has recently published the history of a case of cerebro-spinal meningitis, in which he claims to have demonstrated for the first time the parasitic nature of the disease. The case was that of a woman, aged thirty, seen at the Hospital Cochin, who was seized suddenly after a suspension of the menstrual flow, with violent headache and pain in the back, accompanied by chill, high fever (temperature, 104–105.4 F.), and marked typhoid symptoms. Typhoid fever was at first suspected, but the rapid supervention of strabismus, dilatation of pupils, stiffness of neck, and fixed rotation of head to the right, with general hyperæsthesia, delirium, and coma, soon established the diagnosis of meningitis.

Chemical examination of the urine revealed the presence of albumen of two kinds, the retractile albumen of Prof. Bouchard (attributed to renal lesions), and the non-retractile (considered as an indication of some general infection of the system involving the kidneys). Microscopical examination of the urine and blood undertaken during life and with antiseptic precautions, showed the presence of moving micrococci in great numbers, of various sizes, generally isolated, but in some cases united in pairs.

The death of the patient occurred on the sixth day, from coma. The latter was accompanied by profuse sweatings and retention of urine. At the autopsy, the intestinal follicles were enlarged and prominent, spleen enlarged and softened, liver much enlarged and in a condition of fatty degeneration, lungs congested, heart flabby and "dead-leaf colored," blood black, fluid, and without clots. The kidneys presented the lesions of infectious nephritis as first described by M. Ch. Bouchard in typhoid fever and as observed by the author in diphtheria. Both the cortical and the medullary portions were congested, the former marked by whitish striæ. The microscope showed considerable swelling and granular degeneration of the renal epithelial cells with effusion of granular matter into the lumen of the tubules. The meshes of the cerebral and spinal pia mater showed the usual purulent effusion. This exudation contained numerous micrococci, like those discovered during life in the blood and urine.

M. Gandier ventures to draw from this case the conclusion that the presence of micrococci in the blood and urine tends to prove the parasitic nature of cerebro-spinal meningitis. He attempts to explain in this way both the contagious nature of the malady and its occurrence in epidemic form. At the same time an explanation of the general typhoid symptoms the meningitic manifestations would be found. The existence of a new variety of infectious nephritis, analogous to that already described by Prof. Bouchard, is also pointed out. The meningitis and the nephritis are to be considered as secondary to a primary parasitic infection of the system.—*Revue Medicale.—Medical Record.*

GOITRE, CRETINISM, AND IDIOCY.—Dr. Hermann contributes a memoir on this subject (Friedreich's *Blät. für Gerichtl. Med.*, 1882, p. 128), and arrives at the following conclusions: 1. Although poor living, badly ventilated dwellings, improper clothing, etc., may influence the development of these diseases, they cannot actually produce them. 2. There is no connection between the number of marriages between blood-relations, and the number of instances of cretinism. Marriages between blood-relations appear rather to diminish than to increase the tendency already present of producing cretinism. On the other hand, idiocy may be, and appears to be, produced by such marriages: *e.g.*, Howe records seventeen cases of marriages between blood-relations, producing 95 children, of whom 45 were idiots, 12 scrofulous, 1 deaf, and 1 dwarfed. 3. Cretinism is never uniformly manifested in one locality, but is developed at varying times in certain streets, or houses, and that it becomes active at the time when the human organism is not yet fully developed. 4. The hereditary character of the malady is in certain cases undoubted. 5. In the case of cretinism in the children of healthy parents, there must be a direct specific alteration of the germs by the deleterious matter, without any change occurring in the parents themselves. They are, so to speak, the vehicle for the peccant material. On the other hand, it appears that, when the disease has once appeared in a family, a specific tendency thereto can be traced in the descendants. Even if this tendency have been latent for a time, it often reappears in consequence of some either normal, physiological cause, or some newly developed pathological irritation.—*Medical Record.*

PNEUMONIA IN CHILDREN.—M. Jules Simon, of the Enfants Malades Hospital, gives the following distinctive characters of pneumonia and pleurisy in children: Pneumonia commences by a rigor, by vomiting, convulsions, and a violent fever. There is no pain in the side; the respiration is quickened, sometimes reaching sixty in the minute. There is a sort of tickling sensation in the throat, which makes the little patient cough incessantly, a little dry cough. During the first forty-eight hours the physical signs furnished by auscultation and percussion are *nil*, or nearly so. The only thing auscultation discovers in the first two days is the absence of the respiratory murmur, and apnœa more or less pronounced. In pleurisy, on the other hand, there is no violent fever, no vomiting, no convulsions; so that often acute pleurisy remains entirely unsuspected by the parents. They take the malady for a simple cold, and at the end of seven or eight days the child is taken up. It is thus parents bring their children to the consulting-room, little imagining the existence of a pleural effusion. However, there is a sign that is not observed in pneumonia, and that is, pain which is not situated beneath the breast, as in the adult, but from some inexplicable cause, in the flank of the side affected. It is not an intercostal neuralgia, as in the pleurisy of the adult, a pain radiating in some of the nerve filaments of the abdominal wall. In the child attacked with pleurisy there is but slight fever; he sleeps badly, the appetite is diminished, and and he complains of a pain in the abdomen, a pain which should immediately direct the attention of the medical man to the probability of the existence of pleurisy. The respiration is but very slightly accelerated, and the cough a little dry, does not present any particular features. Twelve or twenty-four hours afterwards percussion will reveal the existence of dullness, and a certain *bruit de frottement* will be heard by auscultation. The apnœa will be observed to be more or less complete, and when the child cries a veritable broncho-ægophony will be perceived. The general condition of the child is so little changed that in most cases he can get up and go about as usual. As to the treatment of this last affection, M. Simon recommends dry cupping at the beginning and poultices. The next day or the following small blisters, left on for three or four hours and, when taken off, another poultice applied and left on for an hour, when the blisters will have arisen, and can be dressed. This revulsive treatment should be continued throughout the whole duration of the disease. As mixture he prescribes the following: Tinct. scillæ, tinct. digitalis—of each ten drops; syrup, one ounce; gum water, three ounces. A teaspoonful every two hours. The digitalis and the squills should be suppressed after four or five days. Milk should be freely given, as it acts as a good diuretic.—*Medical Press*.

Amyl Nitrite for Ague.—Dr. Sauders, of Indore, India, reports in the *Indian Medical Gazette*, a number of cases of ague successfully treated with amyl nitrite. He asserts that in every instance the disease yielded quickly and permanently to the amyl treatment. He mixes the drug with an equal volume of oil of coriander to make it less volatile and to cover its odor, and administers it as follows:

Four drops of the mixture are poured on a small piece of lint, which is given into the hands of the patient for him to inhale freely; he soon becomes flushed and both his pulse and respiration are much accelerated, and when he feels warm all over, the inhalation is discontinued, as the symptoms continue to increase for some time afterward; a profuse perspiration now sets in, which speedily ends the attack, though in some cases the cold stage merely passes off without any hot or sweating stage.—*Medical Record*.

Treatment of Chorea.—Dr. Bouchut's treatment *par excellence* of chorea consists in the administration of hydrate of chloral in large hypnotic doses, even for children. He orders for a child of six years thirty grains in *one dose*, the dose to be repeated every day and increased if necessary to forty or even sixty grains. The effect of this dose is six or eight hours' profound sleep, during which the child does not stir. After a couple of days the disease abates, and in about a fortnight the cure is obtained.—*Medical Press and Circular*.

SURGERY.

Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Diseases.—Delivered at the Royal College of Surgeons of England, June, 1882, by Jonathan Hutchinson, F.R.C.S.

But it is not alone in the scrofulous that we encounter risks in connection with catarrh. Those in whom the tissues have undergone senile degeneration, and those, too, who although not old, have become seriously enfeebled by other causes, often show an inability to shake off a catarrhal attack, and a similar result is sometimes brought about under the law of habit, when catarrhal attacks have been exceptionally frequent and severe.

Apart from the risk of lapsing into chronic disease catarrhal inflammations are in themselves not unfrequently dangerous to life. Many of the forms of acute bronchitis and pneumonia, and some forms of enteritis, peritonitis, and pleurisy, are distinctly catarrhal in their nature—that is, they result from the exposure of an individual to the ordinary causes of a catarrh—and in many of these the popular expression is verified, "he catches his death of cold." Rheumatic fever very often, as is well known, acknowledges a similar cause; and respecting it and the other acute and dangerous catarrhal inflammations, one general statement is true—that if the patient can only live through the attack it will in due course pass off, and pass off completely, leaving him again in good health. This remarkable facility of spontaneous recovery which is a feature of all catarrhal, or, in other words, of all reflex nervous, inflammations has placed physicians in great difficulty in coming to any satisfactory condition as to the relative merits of different plans of treatment. I will not say that cases of acute pneumonia, or acute rheumatism, or severe catarrh recover as well under one plan as another. I should be going far out of my province to make any such insinuation, and I should be saying, too, that which with my small amount of information, I certainly do not believe. This, however, I must repeat, that there is in each and all of the examples of this type of inflammatory attack a natural tendency to recovery at a certain stage, which the student of therapeutics must always keep in mind. Although I have spoken of cold in continuation with damp as if it were the sole cause of catarrh it must by no means be supposed that this is the sole cause. With the changes in temperature there are, doubtless, frequently coincident and very influential certain electric disturbances, of which it is very difficult to take exact appreciation. To these we must refer the great prevalence of catarrhal and catarrho-rheumatic affections at certain seasons, and during the prevalence of certain winds. This prevalence is sometimes such as to suggest, as in the case of influenza, that the air must carry with it the particular and contagious germs. The sum total of what are included in the meteorological conditions termed weather must count as causes of catarrh. We have placed rheumatic diathesis with the catarrhal and the scrofulous, as one which is universal, and in which all human beings share in some degree.

What I have said as regards the laws of catarrhal inflammation apply very closely to those which are rheumatic, for the two are as regards their causes very nearly allied. Rheumatism like catarrh, is usually transitory, especially when it occurs in the young. As with catarrh, so with it, when the aged are its subjects there is danger that it may become chronic or even permanent. Like catarrh, it may mix itself with scrofula or be modified by any other influence which disturbs the general health. The effect of malaria upon the system is often seen to much increase the proclivity both to catarrh and rheumatism. One other diathesis so very frequently mixes itself up with rheumatism, and the two in hereditary transmission become so intimately united that it is a matter of considerable difficulty to ascertain how far rheumatism pure can go. We can, however, have little hesitation in admitting that it may be the parent not only of rheumatic fever, of transitory rheumatic pains in joints, fascia, and muscles, but of chronic crippling arthritis, in which almost all the joints are involved, and in senile periods of the slowly destructive arthritis which wears away the cartilage and eburnates the bones. Further, I think we may grant that it is not unfrequently the parent of sciatica and lumbago. All the affections which I have mentioned occur occasionally to those in whom there is no reason to suspect a gout complication; and, what is a still stronger fact, they are met with occasionally in the lower animals. Having said this I must not delay to add that in a great many of the exaggerated and peculiar forms of them which we witness in the human subject, the cause of the peculiarity is an hereditary complication of gout. When this complication exists it shows its power, we may suspect by inducing a permanent modification of tissue; and it is to this modification that the peculiarities in the processes are due. Hence the impossibility under many conditions of discriminating between gout and rheumatism. We can, for the most part, easily tell in any individual case what the causes which have provoked the attack have been, and we can assign them on the one hand to those of rheumatism or on the other to those of gout; but we cannot estimate with any chance of certainty the previously acquired proclivities of the tissues. There is yet another source of fallacy that we are by no means always acquainted with—the condition of the patient's health at the time of the attack. If a patient already predisposed to gout in his kidneys, his tissues, or his blood be exposed to the exciting causes of rheumatism he will have one of those attacks which you yourself, sir, have so well described, and about the nature of which there has been some controversy. There will be a difference as to whether such an attack should be called rheumatic fever or generalized gout; and the solution of the question is, I suspect, to be found in the fact that it is both.

Two set of causes have been at work, and the result has been a mixed one. When a little white tophus is seen on the ear the merest tyro can read its lesson, and the veriest skeptic dare not refuse its revelation. It is both retrospective and prospective in its significance; we know that the patient's kidneys have become unsound, and that he has failed in the past in the due depuration of his blood. We know that this loaded blood condition must have put him in danger of attacks of arthritis; and that in all probability he has suffered on many occasions from acute and very painful inflammations of some of his smaller joints. We know further that changes have taken place in many of his tissues, and especially that the walls of his blood-vessels have become thickened.

Looking into his future we know he is in danger not only of other attacks of arthritis, but that, however carefully he may restrict his diet and manage his mode of life, it is probable that the renal and arterial changes will increase, and bring with them their peculiar inconveniences and risks. We know further that if a man in such a state should have children, they will, in spite of the utmost care in avoiding the dietetic causes which originally produced it, inherit some of the peculiar tendencies which he had acquired. Where the inheritance will stop, how far it is possible for one structural peculiarity to be separated, and to be inherited apart from others, we do not know. There is, however, I would suggest, good reason for believing that in families in which, either by accidentally changed conditions, or by intelligent foresight, several generations have been carefully exempted from the causes of gout, its existence in times long past may still be shown in the perpetuation of one other more or less isolated tendency to structural disease. It is under such conditions that not a few of the forms of rheumatic gout occur, although of others, and perhaps a large majority, it is rather the fact that exciting causes of gout have by no means been wholly suppressed. In this way we may have to recognize as the lineal descendants of gout maladies which occur in those in whom we can by no means prove its existence. I have referred repeatedly to the facts which favor the belief that the hemorrhagic diathesis itself may, perhaps, belong to this category; and in a former course of lectures I analyzed the facts contained in Dr. Wickham Legge's able little monograph on this subject. During the past year some very interesting facts have come under my observation, which serve to support it, and to lead to the conclusion that many, if not most, forms of intractable hemorrhage are in connection with hereditary peculiarity of the arterial system, derived from gouty progenitors. I will mention only three, and very briefly. A gentleman who consulted me a few weeks ago, with cataract and diabetes, told me that he had been most of his life liable to very profuse attacks of hemorrhage. In early life they had been alarming, and sometimes so frequent as to be almost constant. They were always preceded by a sense of weight and discomfort at the epigastrium; and, provided the hemorrhage was not too profuse he had usually felt relieved by it. There was a strong inheritance of gout, and he had himself suffered from several attacks.

A school-boy was sent to me by Mr. Harrison, of Brintree, on account of repeated and alarming attacks of epistaxis. They had been so profuse and so frequently recurrent that he had lost much of his color and strength. The point, however, which most caused anxiety was that his elder brother had died of it. In him the liability had commenced at thirteen and a half years, had persisted for two years, and finally, after continuing for four days, it ended in death. Their paternal grandfather had suffered much from gout, and their father at the age of twenty-two had had severe epistaxis.

In the case of a lady, now aged twenty-nine, and much out of health, I had the following history: She had always suffered from indigestion and rheumatic pains. At the age of seven she had epistaxis to such an extent that the nostrils had to be plugged; and in spite of that measure for three days, it was expected that the attacks would end fatally. She once had bled to an alarming extent in consequence of tooth-drawing; and her first menstruation soaked the bed through; and ever since this function had been attended with losses so profuse as to have greatly enfeebled her. There had been much gout on both sides of her family, and she herself had had symptoms very like it. I was unable, when examining this subject last year, to agree with Dr. Wickham Legge in his opinion that cases of remarkable tendency to hemorrhage, occurring, as it were, spasmodically, should be quite apart from the hemorrhage diathesis in which we observe the tendency to prevail in direct descent through many generations. It may be that as a matter of convenience it may be well temporarily to effect this separation, but it must, I think, be with the clear understanding that it is a conventional one. The hereditary cases of those in which idiosyncrasy has become definite and established; the others show us the idiosyncrasy in connection with its original causes, and if I may so express it, in process of breeding. The cases of hemorrhage into the vitreous in young men suffering from constipation which had been collected by Mr. Gales, of Birmingham, and in many of which no history of gout could be obtained, go with other facts to make it probable that tendencies to bleed are sometimes met with in association with other causes. My own experience as to retinitis, hemorrhagic blood patches in the conjunctiva, cerebral hemorrhagic epistaxis, and other allied disorders lead me to attach very great importance to the history of inherited gout as their cause.

There is one subject which it is impossible to leave out of the account in our estimation of the diathesis. It does not constitute a diathesis in itself, but it complicates them all. I refer to the changes in the state of the nervous system, or quality of the nerve force which we know as tone. By that word I suppose that we mean the power of producing nervous energy. If we speak of the tone as low and poor, we mean that there is but little vigor in resisting irritation, and that comparatively slight influences will evoke a large amount of disturbance.

That vigor depends, no doubt, upon the state of nutrition of the nerve-cells themselves, and it may vary much in different parts. Thus, the tone may be diminished in one nerve district and yet be good in others, whilst in some instances it is reduced in all, simultaneously. A condition of great general exhaustion is by no means, however, always equivalent with a state of low tone; it is necessary that the enfeeblement should pertain to the nervous system especially, in order that that term should become applicable. Perhaps it is further true that in most of the conditions in which derangement of tone is in question, the disturbance or enfeeblement has reference to that part of the nervous system which controls the circulation. Whenever the circulation is specially liable to reflex derangement and congestions, or their opposite occur with unusual facility, we are safe in declaring that the tone is low. It is part of the business of the nervous system to duly regulate the supply of blood to various parts to prevent local arterial spasm, and under the varying conditions of daily life to maintain the normal balance of circulation. When this power is deficient the various causes of disease act with greatly increased effect. In many cases loss of tone may be so long continued and so great that we cannot but suspect that it depends upon degenerative and permanent changes in the nerve cells. Not only may loss of tone aggravate the diathesis, but many of these act very efficiently in producing loss of tone. Thus the influence of malaria is very definite in this direction, and is felt through very long periods. But I cannot for the present dwell longer on this part of my subject.

The present is, perhaps, the most suitable place for me to interpolate two emendations in former lectures. In my first lecture I adverted to the want for purposes of estimation of the relative frequency of the different complexions in the British population. In doing so, I omitted to mention the excellent work accomplished some years ago by Dr. Beddoes, of Bristol. I had intended to mention it, and should certainly have done so if I had remembered its extent and value. In a subsequent lecture I urged the importance of life records, which should be kept in advance, ready to be produced to any medical man who may be first consulted, and especially comprising mention of idiosyncrasies of the individual, and the diseases which have been passed through by the individual. In making this suggestion, which has long occupied my thoughts, I was not aware that the Collective Investigation Committee of the British Medical Association already has in hand a scheme for its realization. I have since with great pleasure been informed that such is the fact.

It is time that I should bring this lecture to a close, and with it will end my present course. In doing this, I desire, gentlemen, to thank you most sincerely for the very courteous attention with which you have listened to what I have advanced. Permit me at the same time to attempt a very brief resume of the principal arguments.

We began by a glance at the very praiseworthy and to some extent successful attempts made by our forefathers by looking into a man's face to determine therefrom his physical peculiarities and his liabilities to disease. On examining the facts supposed to indicate temperament I was obliged to conclude that part of them were merely the characteristics of different races; and another fact, merely the products of past disease—personal or inherited. Thus it seemed that if race took its share of disease, that which legitimately belonged to it, there was very little left to be classed under the head of temperament.

As regards disease, I suggested that the plan most likely to be productive of good results is to classify the chief groups of morbid influences, and to endeavor then to associate with each the separate maladies and tendencies which are dependent upon them. To this object our last three lectures have been devoted. We had previously endeavored to clear the ground somewhat by placing in a separate category a large number of symptoms and of morbid manifestations which take their origin in individual peculiarity, quite apart from any recognizable tendency to disease. I insisted that the domain of mere idiosyncrasy is very large, and that these peculiarities may have had their origin remotely in disease. They have often existed for many generations in complete freedom from any such association. Whether I have succeeded in convincing you that it would be a convenience in medical teaching and practice to revive the old doctrines of diathesis I do not know. To my own mind it does appear, I may confess, that the states to which I have sought to apply that name are realities which it is very desirable to recognize. It seems to me, also, that the habit of naming diseases, as if they constituted separate and complete studies has often a narrowing effect upon our conception of pathology, and leads to the overlooking of special causes. My endeavor has been to look at disease not exclusively from before, but, so to speak, to get behind it and trace its origin. Classification should surely depend not upon external similarity, but relationship in cause. We should seek to place diseases in natural groups in connection with their ancestral descent. The attempt to do this has, I fear, sometimes led me into speculations as to the genesis of the different forms of diathesis which have seemed somewhat transcendental, and possibly a little wearisome. I can only plead that I have done my best to avoid these faults, and I have been endeavoring to thread my way through the mazes of a most complicated tonic. The main conclusions as to the diathesis which I have suggested for your acceptance are these:

That there are three great universal diatheses dependent upon the very commonest causes of disease by which man, and not man only, has been assailed from the most primeval times. Close to these come others of far less importance, but of parallel nature, because they comprise us all in their range of liability; the diathesis of senile degeneration and the diathesis of malignant new growths. Next we have certain very important ones which are widely spread, but by no means universal, since they depend upon local exposure or personal habits. In this class we have the ague or malarial diathesis, the diathesis of rickets, those of brochocele, scurvy, leprosy, pellagria, and gout. Respecting the diathesis to malaria, I have some doubts whether it ought not to be admitted to the dignity of a primary or universal diathesis. If we go far enough back, probably the whole human race has been submitted to its influence, and not less probably has some impression from it been stamped upon us all. It may even be doubted whether now, in our advanced stage of civilization, those who are apparently not exempt from all possibility of influence from miasm may not still, in some minor degree, suffer from it. It is very possible that, although the severity be far below what is needed to produce an intermittent, yet that the well-recognized ill-effects of certain winds quite disproportionate to their chilly power may be due to slight impregnation with malarial poison. As to the diathesis of gout, I have suggested that it is but rarely of pure breed. Very often it builds on the foundations laid by other maladies, and however much it may boast itself the *dominus morborum morbus dominorum*, it is, if we can see it aright, very often merely a complication of plebian rheumatism. Other diatheses have been mentioned which it is difficult to place in any definite arrangement. That in which there is reremarkable tendency to hemorrhage I have associated, for the most part, either directly or remotely with the disease of the arterial system induced by gout. That which is characteristic by failure of nerve tone I have linked in a like manner—not invariably, but still very commonly—with the influence of the sexual system upon the general health. So also of the state characterised by undue mobility of nerve force or emotional susceptibility known as hysteria. That there are hereditary diatheses which are characterized by peculiarities in the state of the different viscera, or of specialized systems, has also been suggested. In this category we have the hepatic diathesis, the diathesis denoted by chilblains, and that in which the vascular system generally is very feeble; and there results the liability to venous congestion in exposed and distant parts—even to gangrene of the extremities. I made no attempt at completeness in the enumeration of the diatheses, for it is clear that a little ingenuity might subdivide or define them to an almost endless extent. The description of a fresh diathesis is, in fact, almost as easy as the discovery of a new nerve centre, and perhaps much easier than the revelation of a new bacterium. Let me not be thought to speak in the least slightingly of modern investigations in the two latter directions. I simply couple them with the attempts made to classify morbid phenomena, and to say of them all that they are, for the present, tentative, and that the experience of the profession in the future must assign their real value.

Finally, I think I may claim in all that I have said as to idiosyncrasy and diathesis, that I have done my best to recognize the power of hereditary transmission, and to insist that we ought to study disease as being, not of recent origin, or in dependence solely upon existing influences, but rather seek truthfully to "read the record of its long descent."

Again I must beg pardon, as I have already once done, for the fact that I have doubtless often appeared to be stating as somewhat novel, things which were well known and almost commonplace. I could not possibly, from the nature of my subject, have avoided this, nor, indeed, have I made much attempt to do so. It is abundantly sufficient for my ambition if, availing myself most thankfully, so far as my knowledge extended, of the labors of those who have gone before me, I have succeeded in any degree in making opinion more definite, and giving emphasis to that which is true.—*Medical Press.*

CASE OF EXPULSION OF A PORTION OF SMALL INTESTINE FOLLOWING REDUCTION OF STRANGULATED HERNIA—RECOVERY.—The above case is reported by Dr. E. Gilly, of Fons-Gard, in the *Courier Médicale*, June 10, 1882. The patient was a farmer, aged thirty-seven, who, during six years, had been the subject of a right inguinal hernia, which was but little larger than a hen's egg, perfectly reducible, and habitually kept in position by a truss. On May 3d, during a short railway ride, the patient, who latterly had neglected to wear his truss, observed a considerable increase in the size of the inguinal tumor. After quitting the train he walked slowly to his house, a distance of rather more than a mile, supporting the tumor with his hand. On the same day Dr. Gilly was called and found the patient in bed, suffering violent abdominal pains, greatly agitated, and vomiting everything taken into the stomach. The scrotum was of a stony hardness and was distended by a tumor as large as a man's fist and pyriform in shape. Diagnosis of strangulated hernia. Two attempts at reduction by taxis with the use of moderate force proved unsuccessful. Dorsal decubitus ordered, with head and thighs elevated; application of a bladder filled with cold water; administration of an infusion of nux vomica. May 4th. No change in hernial tumor. Infusion not well borne. Another unsuccessful attempt at taxis. Bilious vomiting, the vomita having a fecal odor; almost constant hiccough. Dr. Portal, of Saint Genies, was called in consultation, and by employing considerable force, grasping the tumor with his large hand, the latter succeeded in effecting complete reduction. Spica bandage ordered. Beef-tea diet. Enema of oil, etc., ordered. At the evening visit Dr. Gilly found the patient very feeble. The enema had been immediately returned, the patient having also a sensation as of an obstacle in the rectum completely blocking its passage. Slight vomiting. May 5th. Reappearance of hernial tumor; easy reduction. May 6th. Vomiting had quite ceased. Occasional stools. May 7th. Patient, disobeying orders, had risen from his bed. Return of vomiting and of hernial tumor. Reduction again. May 9th. Patient had removed a new truss applied the day before. Vomiting again with great prostration and agitation, and with slight tympanites and some tenderness of abdomen. May 10th. No further vomiting; slight general improvement and less tympanites. May 11th. Patient had again risen from bed and had also removed the truss. Vomiting worse than ever. Hernia reduced again, but this time with some difficulty. Ever since May 5th, citrate of magnesia in small and frequently repeated doses had been used to check vomiting and to keep the bowels open. May 12th. Cessation of vomiting and marked improvement. May 13th. Convalescence established; no tympanites; stools are formed; hernial tumor well supported by truss. On May 29th, Dr. Portal, while making a round of visits at Gayen, was called to examine a "piece of flesh," which the patient was stated to have passed by the rectum. This was found to be a portion of the small intestine, and Dr. Portal at once brought it for Dr. Gilly's inspection. The piece of gut was twenty-eight centimetres in length, it was ragged a both ends and exhaled an odor of putrefaction, but was found to be quite impervious to water. There was attached to it no fragment of epiploon. From the patient himself Dr. Gilly learned that for eight days preceding the discharge of this fragment of intestine he had suffered from diarrhœa not severe enough to confine him to bed or to the house, yet resisting all domestic treatment. The patient's health at the date of the doctor's report was excellent; bowels regular, appetite good, and all emaciation had disappeared.—*Medical Record.*

THE SUBCUTANEOUS INJECTION OF ETHER.—It should be more generally known that ether injected subcutaneously has a powerful stimulant effect, and is remarkably efficacious in cases of extreme depression of the powers of life. It has long been used to a limited extent in such cases, but increasing experience has enlarged the domain of its application. In adynamic pneumonia, in fevers when failure of the vital powers is threatened, in the puerperal state, in cases of thrombosis of important vessels, the injection of ether has been lately used with singular benefit. Besides, as a stimulant in conditions of depression it has important applications as a hypnotic and local anodyne. In cerebral excitement and wakefulness, accompanied by depression of the arterial circulation, it is most useful. In the more chronic cases of superficial neuralgia, as sciatica, lumbago, intercostal pain, zoster, etc., ether injected in the neighborhood of the affected nerves often gives surprising relief.

There are contra-indications to its use. It is not proper in the cases of cardiac depression due to chloroform or ether narcosis, and yet it has, in the confusion incident to such an event, been freely injected on the cessation of the cardiac or respiratory movements. Under similar circumstances, alcohol has also been freely injected subcutaneously, but this practice is equally improper—and both for the obvious reasons that these are synergistic agents. Ether, subcutaneously, is also not a suitable remedy when there is arterial excitement with power.

The technical details are simple. Ether must be injected with a glass or metallic syringe. Rubber and celluloid are damaged by it. As ether dissolves the oil with which the piston is lubricated, the syringe should always be put in order after ether has been injected. It is a useful precaution, also, to see no particles of dirt or of leather are taken up with the fat. Vaseline appears to be the safest lubricant under these circumstances. From ten to sixty minims is the dose—fifteen minims being the quantity most frequently injected. Some smarting attends the operation, but if the operator is careful in withdrawing the needle to press on the orifice tightly, to prevent the ether escaping, much smarting will be thus obviated. A puffy swelling is caused by the vaporization of the ether, and this presently subsides, and only rarely is an indurated knot formed. An anæsthetic and analgesic area of limited extent surrounds the puncture.

The ether used should be of good quality—as good, indeed, as that employed for inhalation. The number of times injected will depend on the character of the case, but there appears to be no reason why it may not be injected frequently. Three or four times a day has been the rate in cases of adynamic pneumonia. When sudden, extreme depression of the heart is to be overcome, ten or twenty minims can be injected every five minutes, until some result is reached.

The systemic effect is that of a stimulant; the action of the heart is increased, the surface grows warm, and the nerve centres and the organs of the body in general functionate more quickly and powerfully. The curative results of the subcutaneous use of ether are not only different, but in kind, from the stomachal administration of the same agent. This fact must be recognized to obtain a correct notion of the utility of this practice.—*Medical News.*

ELASTIC LIGATURE FOR OPENING SINUSES.—In the *Medical Times and Gazette*, Dr. Henry A. Lediard recommends the use of a fine rubber ligature in opening up sinuses about the posterior part of the mouth. He relates the case of a patient with several sinuses in and about the soft palate on the right side, and in the neighborhood of the tonsil, resulting from repeated abscesses of long duration. A scanty purulent discharge was always present, causing a disagreeable taste in the mouth in the morning. A considerable amount of cicatrical tissue was present near the right tonsil and about the soft palate. A probe searching behind the velum found its way into a sinus, and the point of it projected the tissue above the last molar tooth. He cut down upon the probe point with a view to establish complete drainage through the incision, which, although very small, caused a lingering hemorrhage, which was not checked without trouble. In order to find the course of the pus, which still appeared, he passed some fine elastic, tied to a thread upon an aneurism needle, through the track above mentioned, and tied it; in forty-eight hours the tissues were cut through, and a sinus laid open. No hemorrhage and only bearable pain resulted. The effect was beneficial, but other sinuses appeared still, behind, in parts considerably altered by the old inflammatory action. He accordingly repeated the process, passing the ligature partly through healthy parts; and this was done altogether three times, with the result of complete cure.—*Med. and Surg. Reporter.*

ORIGIN OF THE OLFACTORY TRACT AND STRUCTURE OF OLFACTORY LOBES.—Signor Golgi, in the last part of the *Archives Italiennes de Biologie*, states that he has made a series of sections through the olfactory lobes, with a view of determining the connection of the cells and strands of the olfactory lobes. He finds that there is in man and mammals a superficial layer, continuous with the tractus olfactorius, which gradually becomes thinner posteriorily and stretches towards the gyrus hippocampi; a thicker layer of gray matter, not very clearly defined from the deeper layer of ganglion cells with which they are connected. He maintains that two kinds of nerve cells exist in the gray substance of the lobi olfactori, one set the processes of which divide into extremely fine fibrils, and are lost in the delicate plexus of the neuroglia, and a second set the the fibres of which, though they divide and subdivide, yet preserve their individuality. The fibres of the tractus olfactorius sometimes curve away from their longitudinal course and enter the superjacent gray matter obliquely. The deeper fasciculi of the lobus olfactorius may be traced to the corona radiata, and some, perhaps, into the anterior commissure. Some of the nerve fibres of the olfactory tract originate in the plexus of fine nerve processes of the lobi olfactori, but are not directly continuous with the ganglion cells of this region. Other fibres, again, are directly continuous with the processes of the ganglion cells.—*Lancet.*

IODOFORM DRESSINGS. — For efficiency and safety I give preference to a solution of iodoform in absolute alcohol (one to ten, after Esmarch) and a similar proportion of iodoform and collodion (Georges.) The latter is a hæmostatic and antiseptic preparation of special value in the management of tracheotomy wounds during diphtheria, and of operations on the rectum and vagina. The eagerness with which different absorbent materials, variously treated with antiseptics, have been adopted by particular surgeons, offers a noteworthy contrast to the comparative indifference with which the general principles underlying simple and efficient wound dressing have been apprehended. Immobility and perfect draining, elastic compression, and infrequent dressings are the essentials. These secured, the dynamics of the circulation are so perfectly under control, innervation is so little interfered with, that nutrition and repair proceed with a minimum of stasis and effusion, and practically without any decomposition. But the reception of any discharge that does occur, in powerfully absorbent and antiseptic pads, is obviously conductive to purity, and opposed to infection.—Sampson Gamgee in the *Lancet.*

GONORRHEAL ARTHRITIS.—Prof. Peter pointed out a case at his clinic (*Gaz. des Hop.*, June 17th) in illustration of the fact that in the so-called gonorrhœal rheumatism the joint is not the seat of the affection, but the adjoining white tissues or "tenosity;" and that consequently there is no complication from heart disease, while the prognosis is much more favorable. The gonorrhœal discharge exerts no specific effect in producing it, any genital irritation being competent to do this, acting through some ill-understood mechanism, as in profuse leucorrhœal discharge, or the sudden arrest of the menses. In this case abundant gonorrhœal discharge was present in a woman, and the left ankle-joint seemed to be the seat of an attack of acute rheumatism. This, however, was not the case, and the diagnosis was obtained by the mode of examining the joint. Feeling below the internal malleolus, great pain was produced; but palpation at the external part, or in front, or deeply behind under the tendo Achillis, gave rise to no abnormal sensibility. Returning again to the inner side, and examining methodically, it was found that pain really only existed in the direction of the sheath of the tendons which passed under the malleolus internus—there being therefore only a tenosity, easy to define. It is only very rarely indeed that the joint is implicated.—*Med. Times and Gaz.*

Carcinoma of the Colon: Resection: Cure.—M. Nicolaysen reports the case of a woman, aged forty-nine years, who, for a year, had suffered from constipation alternating with painful, bloody, and mucous stools. A tumor could be detected high up in the colon, which could be forced into the rectum by the expulsive efforts of the patient. The operation was performed in the following manner: After having forced the carcinomatous tumor into the rectum, the patient was chloroformed, the rectum washed out with carbolized water, the bladder emptied, and the tumor drawn outside of the anus. The left index finger was introduced into the intestinal canal 2½ cm. above the limits of the neoplasm and the walls of the colon, which at this level were perfectly healthy, pierced by a row of sutures extending completely around the bowel. The diseased portion was then excised 1 cm. below the sutures, which closed the tubes so well that only a single ligature was required. The edges of the wound were then united by sutures and the bowel released; it immediately retracted. The patient was cured in fifteen days, and no trace of the seat of operation could be detected in the rectum. The excised portion was 6.5 cm. long. The patient was in good health two months and a half after the operation.—*Nordiskt Medicinskt Arkiv.*

Iodine Injections in Lymphoma.—Dr. Karl Körbl (*Wien. Med Woch.*) records twenty-three cases of lymphoma treated by subcutaneous injections. He tried Fowler's solution, carbolic acid, iodoform, etc., for this purpose. Latterly he has used tinct. iodi, and injects into the most prominent part of the swelling a sufficient amount to cause distinct tension. This is followed by much swelling and pain, but by the third day these are nearly gone and massage is then practiced. The injecting is to be repeated as may be required.

Isolation in Ringworm Cases.—Thin asserts that the isolation in cases of ringworm in families and schools is entirely unnecessary, and that all danger of contagion may be obviated by the practice of keeping in constant contact with the patch of ringworm some fatty substance, which, while it may not cure the disease, will prevent its spreading to other localities and other individuals, by precluding the escape of the contagious elements of the fungus.—*Lancet.*

OPHTHALMOLOGY—OTOLOGY.

Action of Quinia and Salicylic Acid on the Ear.—In order to ascertain whether the noises in the ears produced by salicylic acid and by quinine are due to a congestion of the labyrinth, Dr. Kirchner has instituted some experiments in the pharmacological laboratory at Würzburg. The noise in the ears is sometimes accompanied by giddiness and deafness, which, usually ceasing when the medicine is discontinued, sometimes persists as a serious malady. Kirchner employed in his experiments rabbits, cats, dogs, and guinea-pigs. His conclusions are that both these agents cause hyperæmia of the tympanum, which may go on to hemorrhage, and that the whole of the labyrinth participates in the congestion. It may become so intense that, if it lasts long, it will cause of necessity an alteration in the nerve filaments, and it may lead to exudation. This congestion he regards as produced by a vaso-motor mechanism. In this conclusion, however, another series of observations made by Weber-Liel and Guder does not agree. They observed carefully the symptoms produced in certain healthy individuals by a moderate dose (fifteen grains) of quinine, and noted, during two hours and a half, a gradual fall in the temperature of the external auditory meatus, corresponding to the diminution in the general temperature of the body. No hyperæmia could be detected in the meatus, the membrana tympani, or the handle of the malleus, either during this period or later. On the contrary, in five cases a slight hyperæmia which existed previously was found to disappear. The subjective noises in the ears come on at the end of an hour or an hour and a half, and continue for ten or twelve hours, while the deafness comes on one or two hours later than the tinnitus, and is greatest at the time that the general temperature of the body is lowest. Similar experiments were made with salicylic acid. Four or five grammes of salicylic acid caused a diminution in the temperature of the external auditory meatus, which falls in the course of two or three hours to 95°: No indication of congestion could be discovered, and, as in the case of quinine, previous hyperæmia became lessened. Noises in the ear came on later and lasted longer than in the case of quinine. The deafness is very marked, and continued in some instances for several days, and in some cases, in which there existed previous ear disease, the loss of hearing was more prolonged, enduring in one case for nine months. In more than half the cases giddiness came on a little after the subjective symptoms. Comparing the effects of salicylic acid and quinine, it appears that the former causes a less considerable depression of temperature and a more prolonged diminution in hearing. It is difficult, therefore, to ascribe the aural effects either to congestion or to anæmia, and if these observations are reliable, it would seem to be due to a primary nervous influence.—*Lancet.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, September 23d, 1882.

The Week.

POST GRADUATE INSTRUCTION.—By reference to our advertising pages our readers will notice the announcement of the New York Post-Graduate Medical School. We are informed of the inauguration of a similar enterprise in Saint Louis. These schools are designed to meet a growing demand for special instruction in particular departments in medicine. Specialty practice in all large cities has very greatly increased during the past few years; and with this increase of business comes the allurements for young men to enter and practice in the specialty fields. Whether this is a wise departure from the ways of the past is sometimes questioned. But with the query comes the acceptance of the situation as an inevitable condition of the practice of medicine at this time.

The organization of Post-Graduate Schools in New York and St. Louis will undoubtedly be followed by similar schools in Philadelphia, Cincinnati and Chicago. These large cities are alone capable of furnishing not only the requisite teachers, but the equally necessary clinical material for illustration purposes. Neighboring cities of smaller size and less population having medical colleges, will do good work in preparing students for the more thorough and higher courses given in the large cities. Ambitious and aspiring young men will find opportunities for the display of their abilities as teachers in the departments to which they have devoted time, money and attention. And in their ranks in the near future may we not anticipate finding at no distant day an American Koch, Pasteur or Ferrier. In the concentration of work in special lines we will look for nearly all discoveries and advance in medical science, and a factor of no slight importance in the attainment of desired results, will no doubt be found in the organization of Post-Graduate courses of study in our large medical centres.

Miscellany.

THE SMOKE NUISANCE.—Dr. Siemens, who is peculiarly fitted to discuss this subject, leans strongly to the conclusion that it is in the utilization of gaseous fuel, and the crude coal of our fireplaces, that the most complete solution lies. He says this week:

"Regarding the importance of the gas-supply as it exists at present, we find from a Government return that the capital invested in gas works in England, other than those of local authorities, amounts to £30,000,000: in these, 4,281,048 tons of coal are converted annually, producing 43,000 million cubic feet of gas, and about 2,800,000 tons of coke; whereas the total amount of coal annually converted in the United Kingdom may be estimated at 9,000,000 tons, and the by-products therefrom at 500,000 tons of tar, 1,000,000 tons of ammonia liquor, and 4,000,000 tons of coke, according to the returns kindly furnished me by the managers of many of the gas works and corporations. To these may be added, say, 120,000 tons of sulphur, which up to the present time is a waste product. Taking the coal used, 9,000,000 tons, at 12 s., equal £5,400,000, the by-products at gasworks exceed in value the coal used by nearly £3,000,000. In using raw coal for heating purposes, these valuable products are not only absolutely lost to us, but in their stead we are favored with those semi gaseous by-products in the atmosphere too well known to the denizens of London and other large towns as smoke. Professor Robert has calculated that the soot in a pall hanging over London on a winter's day amounts to fifty tons; and that the carbonic oxide, a poisonous compound, resulting from the imperfect combustion of coal, may be taken as at least five times that amount. The fine dust resulting from the imperfect combustion of coal is mainly instrumental in the formation of fog; each particle of solid matter attracting to itself aqueous vapor; these globules of fog are rendered particularly tenacious and disagreeable by the presence of tar-vapor, another result of imperfect combustion of raw fuel, which might be turned to much better account at the dye-works. The most effectual remedy would result from a general recognition of the fact that, wherever smoke is produced, fuel is being consumed wastefully, and that all our calorific effects, from the largest down to the domestic fire, can be realized as completely and more economically, without allowing any of the fuel employed to reach the atmosphere unburnt. This most desirable result may be effected by the use of gas for all heating purposes with or without the addition of coke or anthracite."—*British Medical Journal.*

FAITH AN ELEMENT OF SUCCESS IN PRACTICE.—Dr Fothergill, in referring to this subject, utters some very sensible remarks. There is no doubt that many physicians make the most lamentable failures on account of their want of faith in therapeutic measures. The effect of the mind on the body is well known, and when the patient sees a lack of confidence in the physican, he is depressed thereby, and the condition is made worse, instead of better. One of the most successful practitioners in one of our western cities attributes his success in great measure to the faith he himself has in the effectiveness of drugs properly administered, and the confidence that his faith inspires in his patients. Dr. Fothergill says: "If the medical man speak to the patient with doubtful accents and hesitating utterances, he does not inspire confidence; he really sows distrust. This is the explanation of the successful treatment of a case by one man where another has failed, the remedial measures being much the same. The one carries the patient with him to the restoration of health; the other intensifies a morbid state and tends to make it permanent.

"This is a matter too little thought about. Just as a weak-willed medical man fails to do certain patients good; and lack of decision of character unfits a medical man for dealing with emergencies, where the judgment must be prompt and the action energetic; so the therapeutic nihilist, who doubts the efficacy of drugs and leaves them chronic valetudinarians; while in the hands of a enthusiast the cases would soon move onward to a satisfactory termination. There are some men who are 'doubting Thomases;' there are others who decry what they do not not understand, and deprecate remedies with whose potency they are unacquainted, who do immeasurable harm to their patients. An eclipse of faith in medicines has now existed some time; but the darkness is beginning to move away, and a return of faith, stronger, firmer, more capable of giving a *raison d'etre* for its existence than in the past is dawning—the daybreak of happier times for those who are stricken down with illness, or crippled in their working power by incapacity in their digestive viscera. This therapeutic nihilism is a passing wave of opinion, a temporary mental state, the end of which is at hand; and the sooner it is over the better for all. The patient's prospects will be brighter, the medical man happier for feeling that the patient has got some 'value received' in return for his outlay. A healthier condition of thought on matters medical will generally obtain; for quacks, charlatans, and irregular practitioners of all kinds are to a great extent fostered by the recent want of faith in the medical profession. When a man is sick, what he wishes is to get well; the means to him is a matter of comparative indifference."

PASTEUR'S INOCULATION QUESTIONED.—The *Medical Times and Gazette*, quoting from the *Revue Med.*, says: Mr. Duclaux, Professor at the Agronomic Institute, and charged with the delivery of a course on Chemical Biology, at the Sorbonne, has devoted a chapter of his work, "Ferments et Maladies," to the consideration of M. Pasteur's inoculations. We know that M. Passeur takes a virus, cultivates it under determinate conditions which are still kept secret, and professes to transform it into a "vaccine" virus, which, when inoculated, preserves an animal from a disease caused by this same virus when not attenuated. We are of opinion that he does nothing else than the practitioners of former times did when they inoculated smallpox, and which those of our contemporaries have so unfortunately done in inoculating syphilis, with the object of preserving from disease that can only be taken once. Three circumstances may occur:

1. The animal inoculated is not favorably disposed for the infection, the virus does not take, and there is no result.

2. The virus takes and a slight form of the disease is produced, which preserves from an ulterior attack.

3. The virus communicates a dangerous form of the disease, and the animal dies.

This last case occurs pretty often after the vaccination by the Pasteurian procedure, and perhaps not a week passes in which carcasses are not received at Alfort that have had no other cause of death. There is no analogy whatever between the Jennerian vaccine virus employed for prevention against small-pox and the virus-vaccin used by M. Pastuer. Never has vaccination given rise to the production of variola; and variola and vaccinia have been observed in a state of simultaneous evolutions in the same individual. Never has vaccination caused death, except when the virus has been mixed with virulent pus; while this virus-vaccin has already killed a number of animals. What number? This should be stated in a matter of such importance.

Such accusations should have strong authority to subtantiate them, else they had better be left unmade.—*Medical and Surgical Reporter.*

Le Médecin Practicien of the 8th of July, 1882, states that as Pasteur's results with charbon had been doubted by some German scientists at the International Congress in London, Pasteur had gone to Berlin and performed his experiments there. Beyer (*sic*), Virchow and Müller composed the jury and the "illustrious compatriot" of the *Practicien* triumphed gloriously.

A SAFE DEPILATORY.—The following is to be preferred to most of the so-called depilatories:

Carbonis ligni	1 drachm.
Calcis ustæ	4 drachms.
Lodii carbonatis	1 ounce.
Glycerinæ	1 "
Adipis	7 ounces.

This depilatory is applied to the skin for ten or twelve days, when the latter assumes a rose tint, and the hairs may be extracted withour pain.

BEARDED INFANT.—The *Tiempo*, of Valencia, notes the birth of an infant with a well-developed beard and a full set of teeth.

Bibliography.

"MEDICAL RHYMES OF A KANUCK DOCTOR."[1]

That physicians are prone to woo the muses is a fact well known to all students of literature. The classical stream that flows from the fountain of Helicon bears upon its sacred bosom the rosy garlanded shallops of more than a score of famous medical bards. Drifting down the River of Time, with lutes low murmuring in tuneful diapase, the songs of the medical p[illegible]s are wafted back to us from the golden realms of the Immortals.

Long before the eighteenth century the verses of Pelletier, Forcastario, Vandergoes, Petit, Quillet, Paulmier, Spon, Menardiere, Balthurst, Garth and Johnson, delighted the lovers of rhyme in many a land. Coming down to a later period the verses of Quesnoy and Herissant are still repeated in Sunny France. Albert Haller's "Poem on the Alps" is still recognized throughout Germany as a masterpiece. It was the first poem written in "Faderland" showing the full capabilities of the German language for making sweet and harmonious sounds.

The "Low Dutch Ballads" of Godfrey Bidloo may still be heard along the dykes and lowlands of Holland. While, among the vine clad hills of charming Italy the dark eyed peasant maid gathers the clustering grapes and hums the amorous ditties of Marchetti.

What lover of English literature will ever forget Oliver Goldsmith's "Deserted Village"; Darwin's "Botanic Garden"; Blackmore's "Prince Arthur"; Armstrong's "Art of Preserving Health"; Nott's "Leonora"; Akensides' "Pleasures of the Imagination"; Mandeville's "Fables of the Bees"; Crabb's "Library"; Brown's "Paradise of Coquettes"; Granger's "Ode to Solitude"; Keats' "Endymion"; Good's "Lucretius"; Leyden's "Scenes of Infancy"; Aiken's "Poetical Criticism" and Moir's "Domestic Lyrics"?

In truth the medical profession of "Merry England" may well be proud of its poets. America, up to the present time, has had but few medical poets to boast of. The "Whaling Song of John Osborn is still heard, occasionally "Off Old Natucket's Harbour." Joseph Rodman Drake's "Culprit Fay" will always remain a gem in the crown of English literature, while every school-boy in the Republic has recited Oliver Wendell Holmes' "Old Constitution." Drs. Mitchell, Bigelow, Holland, Francis and the late Dr. Meigs have also written charming verses. But, a new poetical star has taken its place among the medical Pleiades, a star whose sparkling rays have lighted up the very firmament of Heaven.

"Into the ocean faint and far
  Falls the trail of its golden splendour,
And the gleam of that single star
  Is ever refulgent, soft and tender."

This new medico-poetical planet hails from Canada. His name? Percy Douglass Colchester, A.M., M.D. Dr. Colchester seems to have arranged his rhymes in the same manner as a country apothecary arranges his bottles, *i.e.*, in the manner best calculated to make a show. Want of time and space will prevent a full notice of Dr. C.'s collection, and a few choice extracts must suffice to show the peculiar poetical bent of his Canadian genius. Take, for instance, the stanzas entitled:

"ODE TO HAY FEVER."

"Germ of septicæmic beauty,
  Floating like mote in air,
I deem it but a duty
  To sing of thy glory rare.
Like a bee hovering o'er roses,
  Seeking a honeyed chrism,
Sip the mucus from our noses,
  But, beware of Listerism!"

The ambiguity of the above quoted lines is only exceeded by their beauty. It is evident that the author is a believer in the germ theory and considers Listerism a specific for hay fever. Let him try it on his own nose! The poet continues:

"In a deep Schneiderian chalice
  With membranous walls of pink,
Build thy epithelial palace
  And to peaceful slumbers sink,
Till through turbinated columns,
  Borne by post nasal breeze,
Comes the melancholy, solemn,
  Fifteenth of August sneeze."

This is a new and pleasing theory, the germ is supposed to slumber and incubate amid the epithelial cells until a certain date, when its proliferation is announced by salvoes of sneezing. We will spare our readers the other seven verses, which relate principally to the treatment of the malady.

"Deacon Jones' Pile" is another poem displaying the divine afflatus possessed by Dr. Colchester, who, it is more than evident, mounted his winged Pegasus and spurred the fiery steed along the celestial road which leads to the heights of Parnassus; what can be more touching than the following:

---

[1] By Percy Douglass Colchester, A.M., M.D. Toronto, Canada.

"Like the rounded grapes that cluster
And hang from the graceful vine,
Whose beautiful purple lustre
Betoken the juice of wine.
So, o'er rectal vineyards trailing,
In quaint, fantastic style,
Peeps through its anal railing,
Old Deacon Jones' pile."

Turn we now to the consideration of another poem, one of the most picturesque of the Colchester "Rhymes."

"ODE TO A LIMA BEAN."

"Bean! sweet, delicious bean!
Thou blossomed once on vine.
Pink eyed, with leaves of green,
With a perfumed breath divine.
But, thy blossoms turned to pods
Filled in with globules gray.
Food unfit for Commencement Gods
To eat on that Festal day.

The "Commencement Gods," thus mentioned, seem to have been the graduates of Rush Medical College of Chicago, of the spring class of 1880, to whom the ode is dedicated. The poet continues:

"Though swallowed in innocence,
Thy breath was sweeter no longer,
For the spirit of rectal flatulence
Kept speaking louder and stronger.
Chicago tailors were happy then,
At the thought of mending breeches,
For they knew full well bean-eating men
Were apt to burst some stitches."

The other three verses are omitted as they deal principally with the process of starch digestion in Nature's laboratory. A full knowledge of the effects of bean eating is more than manifest throughout this beautiful ode. A number of *genre* poems are noticeable among Dr. Colchester's "Rhymes." We select as specimens two of the most striking:

"SQUIRE SLOCUM."

"Patent Peristaltic Persuading Pill,"
Thus read the advertising bill,
"Cleans out the bile that the liver doth fill,
Cures the human body of every ill,
Strictly warranted not to kill."
Thus read the advertising bill.

"Farmer Slocum, driving down hill,
Saw, on the fence, the pasted bill,
Concluded at once that he was ill,
While dark forebodings his mind did fill,
Bringing upon him a nervous chill,
All the effect of that printed bill."

"The druggist placed the cash in his till,
Squire Slocum swallowed a single pill,
The very next day the Squire was ill,
The day after that he was cold and chill,
So they buried the Squire on "Grave Yard Hill,"
With his "Peristaltic Persuading Pill." "

The errors in construction of the above quoted lines might be dwelt upon at length. Nevertheless, they jingle, "point a moral and adorn a tale,"

Dr. Colchester seems to have been a resident of Albany, New York, at one time, for many of his rhymes have a local bearing. The Doctor also inclines to sentiment at times, as the following will fully evidence.

"A MISTAKEN DIAGNOSIS."

He had recently left college
And hung out an M.D.'s shingle.
She possessed some little knowledge,
(Vassar graduate) and was single.

He was skilled in heart affection.
She could parse the verb elope.
He asked for an inspection.
She disliked the stethoscope.

His ear was on her chest,
Engaged in auscultation.
Her heart and rounded breast
Indulged in palpitation.

He heard no valvular sound,
As of blood through vessels rushing.
She, all innocent, looked 'round,
And beautifully kept blushing.

He, with embarassed air,
Stammered "You have no heart,
I hear no murmur there,
You lack that vital part."

She, learned Vassar maid,
Eyes sparkling with delight,
Whispered "Doc. don't be afraid,
Just "pop" and I'm all right."

The Doctor proposes to the Vassar maid and is accepted in two more stanzas. Those of our readers desiring the "Colchester Rhymes" should apply to the nearest book-seller and obtain a copy before the edition is exhausted. T.C.M.

TRANSACTIONS OF THE MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF MARYLAND.

This is quite a large volume of two hundred and fifty pages. The first part consists of a report of minutes of the session, and reports of committees and officers. Following this is the address of the President, Dr. F. Donaldson, the scientific part of which treats of infectious and zymotic diseases, with their accompanying bacteria, micrococci, etc.

The annual address was delivered by A. M. Fauntelroy. Subject: "Reciprocal Action of Morbid, Bodily and Mental Influence."

The report of the section on surgery includes the following papers: "Treatment of Cancer of the Rectum," by L. McLane Tiffany; "Osteo-Sarcoma of the Femur and Amputation at Hip-Joint," by the same gentleman; "Fractures of the Extremity of the Radius," G. H. Boyland.

Dr. Thomas B. Evans, chairman of the section on practice, offered his annual report, and in it also contributes his share to the germ theory.

The section on obstetrics furnishes some good articles to those particularly interested in this branch.

Dr. Julian Chisholm reports on behalf of the section on ophthalmology, considering the materia medica and therapeutics of all agents employed in the treatment of eye diseases.

Correspondence.

FOREIGN NEWS.

PRAGUE, September 10, 1882.

Editors Lancet and Clinic :

To the traveller who sees Carlsbad for the first time at eleven o'clock at night it gives the impression of a deserted village. No one on the streets, no lights in the houses and only an occasional gleam from the very scanty street lamps, or from the open door of some hotel, where the porter sits nodding, waiting to greet the belated guest, all conspires to make the weary traveler feel that he is in the most inhospitable of resorts. Early in the morning he is awakened by the strains of music from the band, which begins its day's labors at six in the drink hall; or, if not by that, by the general stir and bustle which animates every hotel and boarding house from a very early hour. The mode of life here, as at Franzensbad and Marienbad, the other leading health resorts of Bohemia, is as follows: The guests, or patients, rise early, repair to the drink hall, listen to the music, promenade for an hour or two and partake of the purgative waters until they have swallowed the prescribed number of glasses at stated intervals, either from one or from different springs, all of which are of nearly the same chemical composition, but the moral effect of the mixture is thought to be beneficial by the physicians, who are generally not above the charge of resorting to the arts of charlatanism. After the exercise and music the guests resort to a few favorite coffee-houses, which are generally crowded between eight and nine, and after their breakfasts they scatter to the promenades and bath houses. Dinner is eaten at mid-day and the afternoon coffee drank in the garden where the services of the band happens to be engaged for that day. Later the band again calls the poor mortals to the springs, after which they are at liberty either to depart at once to their houses or to indulge in the very harmless dissipation offered by a poor theatre or a reunion ball. At all events the place is deserted and wrapped in darkness at an early hour.

The long procession which files slowly past the renowned Sprudel Spring in Carlsbad, each with his regulation cup in hand which is filled by the nymph of the fountain, generally a not overly-tidy peasant girl, is in truth a sad-looking company. All shades of jaundice pass along, the speaking face of the dyspeptic, on whose countenance despair sits enthroned, is never absent, occasionally the muddy complexion and puffed eyelids of Bright's disease finds place in the ranks, and often the red nose and blood-shot eyes of the hard drinker who has come to atone for the sins of the past and prepare for the festivities of the future.

In Franzensbad the ladies take the preference. It has been dedicated to the gynecologists victims, and here they come to partake of their cathartics and iron in the same mixture and luxuriate in all manner of baths, from the disgusting moor bath down.

Marienbad has a mixture of the classes found at the other resorts, but in addition to its waters are attributed the virtue of relieving the fat man from a portion of the burden he has to carry through life.

The bathing houses, especially at Franzensbad and Marienbad, are perfect palaces. There the visitor can have a moor bath, a Turkish bath, a hot-air bath, a bath from any of the springs of any desired temperature and heated in any manner he or the whim of his physician may dictate. These moor baths are curious affairs. The original moor baths are taken on the shores of the Black Sea in the following manner, as related by a Russian physician who was in the Turkish War. On the shores of the Black Sea a deep layer of decaying vegetable matter collects, especially in the numerous inlets and small bays, which, during the hot weather, are separated by a bar from the sea and where the water is only two or three feet deep. The water and the decaying vegetables and wash from the sea, which constitutes the moor, is heated by the sun to a high degree. The bather seats himself in the shallow water, rubs the nasty stinking mass all over himself and wallows in the mess like a hog. After half an hour or so of this recreation he takes a plunge in the pure sea water outside the bar and washes off as much of the filth and stench as he is able. Here in Austria they excavate a marsh, where decaying vegetable mould and water is in abundance, cart it to the bath houses, grind it in a mill and pass it into a large tank where it is mixed with water and heated by steam. From the tank it is drawn off into portable bath tubs, where it is again mixed, more water added and the temperature brought to the desired grade. Then it is wheeled into the bath room and the unfortunate bather plunges into a black, bad smelling mixture where he remains from twenty minutes to half an hour, when he steps into a second tub full of pure water to cleanse himself. The moor is too precious to be wasted, so after being used it is deposited in a great heap, where it is said to remain ten years before it will be fit for use a second time. These heaps remind one in more ways than one of those which the dairy farmer accumulates behind his cow stable. The moor bath is popularly believed to be very beneficial in all cases—a veritable cure-all. The physicians questioned on the subject were unwilling to commit themselves as to its indications and effects, except in the case of hypochondriacs, with one exception, and he said where a poultice for the whole body was necessary he knew of no more convenient method of applying it. It contains the products of the decomposition of vegetable substances and a considerable quantity of iron salts and glauber's salts, but the chief requisites seem to be that the bath when prepared should smell as badly as possible and cost a good round sum. Here are baths of glauber salts, of iron salts, or carbonic acid gas water; baths with water heated in a boiler, or by a steam jet into the bath itself, baths to suit every taste and at all prices, are all to be had and the enthusiastic hydropathist has his indications for every variety, and, what is more important, patients enough to experiment upon from the prosperous appearance of the establishments. Two hundred baths can be taken at once in an establishment in Franzensbad and the director said that all the tubs were used several times a day. There is another house as large and smaller ones in the same place.

Franzensbad is situated in a plain. Its parks are very attractive and the fact that there are no hills to climb renders it particularly appropriate to the class of patients sent there. As stated above its waters are supposed to be peculiarly beneficial in the diseases of women. The springs are cold, cathartic and ferruginous. The large swamps, almost in the town, from which the material for the moor baths is taken, look extremely unhealthy to one from the malarious districts of America.

Carlsbad is beautifully situated on either bank of the little Tepl River with mountains on all sides. But the drains from the city all empty into the river, which is an insignificant little creek, and in warm weather the stench from it is said to be extremely unpleasant. The springs are all purgative and of about the same chemical composition, differing only in the temperature of their waters. The Sprudel is the warmest with a temperature of 70°—72° Cent.

Carlsbad has the greatest number of visitors, 25,000 persons having visited it this summer. Baden-Baden, however, has had 35,000 visitors.

Marienbad makes the most favorable impression. Its mountains are not so high, nor as wild as those of Carlsbad, but the walks are quite as attractive and the views as extended. Moreover, the moor lager is quite a distance from the town, which is an item of considerable importance to one with sensitive olfactories.

The springs are cold and contain iron salts with purgatives or with carbonic acid gas alone.

H.L.T.

Reports of Societies.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday, September 7, 1882.

Vice-President J. SOLIS COHEN, in the chair.

Case of Carcinoma of Mamma—Presented by Dr. C. B. Nancrede for Dr. Chas Wirgman.

Mrs. Josephine M., æt. forty-eight years; married at twenty-three; the mother of three children, the last born sixteen years ago. Had nursed all her children, but the last died from marasmus, owing to the small amount of milk the mother had, although lactation was free after the first two confinements. She never had any abscess of breast, traumatism or eczema of the nipples, although she had always experienced pain and uneasiness in the right breast when nursing. There was no trace of carcinoma in family history. A sister had had enchondroma of one of the metacarpal bones. When young the patient had suffered from dyspepsia, and on one occasion had had an attack of hæmoptysis.

Of late years, Mrs. M. has grown very stout although never rabust nor strong. About the middle of June, 1882, she first noticed a lump in her right breast at its upper inner quadrant, about the size of a hen's egg. A few nights previously she had been awakened by a severe lancinating pain in the right breast, but experiencing no further inconvenience she paid no attention to it. The mass did not seem to grow till handled and an exploring needle had been inserted, when the growth became softer, much larger, painful, and the skin and superjacent veins rapidly showed marked changes. I saw her August 6, 1882, with Drs. Wirgman and Hearn, when the only additional points to be noted were that the growth was freely movable with the breast upon the chest walls, and that a mass the size of a pigeon's egg could be felt in the axilla under the outer margin of the pectoralis major muscle.

DR. WIRGMAN removed the whole breast by two semicircular incisions, opened up the axilla and removed all the glands up to the clavicle. This operation again emphasized what Dr. S. W. Gross has specially insisted upon viz., that although the axillary glands may appear before operation uninvolved that when the axillaries are opened, numbers are often found enlarged. This accords with my own repeated experience. Although slow in healing the case has done well since operation. This presents special points of intent which I shall now dilate upon. In the first place its history and appearance were eminently suggestive of a rapidly forming sarcoma, which was either cystic or what at once suggested itself to me before etherization, by one into whose substance hemorrhage had occurred. Upon careful examination under ether, the discovery of the enlarged gland at once suggested the strong improbability of sarcoma, which view I abandoned.

After the removal, the macroscopic appearances once more threw doubt on the diagnosis as there was, for at least one half, if not more at the circumference of the growth, a distinct *appearance of a capsule*, and as I had surmised, the tumor had been broken down by a hemorrhage into its substance. Subjected to microscopic examination, the specimen was again puzzling, since sections of the first piece embeded, showed in every portion of their extent—with a few very slight exceptions—small spindle-cells of a connective tissue type. Dissatisfied I embedded a second piece, sections of which revealed a typical carcinoma of the soft variety. This again illustrates what I have many times insisted upon in this society, viz., that either very large sections of growths should be made as Dr. Seiler advocates, or sections from several and varied portions of the morbid mass should always be carefully examined. Dr. Tyson said that the presence of a capsule seemed to be clearly demonstrated.

Recurring Carcinoma of Mamma and Axillary Glands.—Presented by Dr. C. B. Nancrede.

The patient, Mrs. F., æt. thirty-seven years, from whom the specimens were removed before the discovery of the primary tumor, about eighteen months back was in perfect health, although from pecuniary losses she had undergone much mental anxiety since the Chicago fire. Hearing a vivid account from a friend, of another case of carcinoma mamma, her mind became deeply impressed, and shortly after she discovered a growth in the upper inner quadrant of the left breast, which continued to grow until it had attained at the time of the first operation to the bulk of a small orange, viz. one year after her first discovering it. She lost much flesh from the time of the discovery of the growth; she had never suffered from any form of traumatism, had had no eczema of the nipple, and although she had borne one child a number of years back, and had suckled it; had never had sore nipples. There was nothing which could be fairly construed as an hereditary history of carcinoma. The primary operation had consisted in a removal of part of the breast. In less than two months after this a small nodule appeared in the cicatrix, while the axillary glands began to enlarge rapidly. On July 8th, 1882, I saw her in consultation with Drs. R. R. Taylor and Harlow, when I found that there was a small nodule in the middle of the original cicatix, while the axilla was occupied by the mass of indurated glands which I here present. The growth partially embraced the axillary artery, since when the former was compressed the radial pulse was decidedly affected. Not being allowed to remove the whole breast, I freely excised the small recurrent growth, and, after a tedious dissection removed the axillary tumor, laying bare the artery and vein for a space of over an inch, clearing every thing to the clavicle, and distinctly recognizing the coracoid process of the scapula. Although not the place for a clinical discussion, I cannot refrain from emphasizing the importance of the thoroughness with which this axillary dissection should be performed,

Not a single gland should be left, enlarged or not. Properly conducted, there is hardly any hemorrhage, a vessel rarely requiring ligature. This case was treated on Listerian principles, but with a spray of acetate of alumina, and the wound was dressed with the same. There was no inflammation, heat, pain, nor subsequent induration, and if I remember rightly the case required but five dressings, until the wound became superficial, and fewer would have been necessary had perfect coaptation been secured. One or two points where stitches made marked tension, showed a surrounding skin blush, which disappeared on the removal of the stitch; immediately contiguous to this the wound-edge looked as if made but a few minutes before, thus showing that the irritation of tension was the trouble, which as before said very rapidly disappeared when the deeply imbedded stitch was cut. The temperature rose to 100.2° at the end of the first twenty-four hours, after which it remained under 100°. The pain after the removal of the bottom stitches amounted practically to nothing, according to the patient's own statement, and it will be remembered that she had the experience of a former operation for comparison. I believe that this is the first case where acetate of alumina has been used in this city in a Listerian operation, and its success disposes of the absurd statement that carbolic acid is Listerism.

Carcinoma of Stomach.—Presented by Dr. J. B. Musser.

The clinical aspects of this case were so definite that when this man applied to the Medical Dispensary of the Hospital of the University of Pennsylvania for treatment early in April of this year, it was without difficulty that malignant disease was diagnosed.

He was a farmer of good habits, fifty-three years old, and previously in good health. For the last six weeks he had suffered from "weakness of the stomach" and general debility, which prevented him from working. He had lost much flesh, and had constantly a sickening pain in the epigastrium extending to the upper lumbar region, which became much worse within an hour after eating. Appetite was poor, tongue clean and pale, bowels constipated, with troublesome flatulence. A tender, non-pulsatile, movable tumor extended across the epigastrium from the margin of ribs of one side, to a similar site on the other, one inch and a half above the umbilicus. He presented an anæmic, cachectic appearance.

Dr. H. Plank, of Moyantom, took charge of the case and wrote me April 21, 1882, that he was much benefitted by the treatment instituted, but was confined to bed by sheer exhaustion. June 5th the doctor reported increased weakness and emaciation, and that the pain has extended along the left side to the same shoulder. He took but little nourishment and he commenced vomiting June 10th, indigested food, mucus and grumous purulent matter. He died June 20th of exhaustion after a nine month's illness.

Dr. Plank kindly sent me the specimen I here present. One fourth of the pyloric end of the stomach is involved in the growth extending along the greater curvature for four inches, along the lesser two inches and completely encircled the organ. The stomach walls are hypertrophied and the mucus membrane congested. The mass encroached upon the calibre of the viscus so as almost to occlude it. The tumor consisted of three nodules, one of which was ulcerated on its mucus surface, and presented the appearance of a scirrhus. The glands in the lesser omentum were diseased.

Spindle-celled Sarcoma of the Thigh.—Presented by Dr. J. Fleury C. Simes.

The patient from whom this specimen was removed, presented himself for admission to the Episcopal Hospital on Aug. 30, 1882. He is sixty years of age, an Irishman, and he gave the following history. Two years ago, he first noticed at the lower and outer part of the thigh, a small swelling which grew rapidly to the size of a hen's egg when it was removed. Shortly after the wound had healed a second tumor was noticed in the cicatrix, having the same character as the previously removed growth. This was also removed by operation, and again, in a still shorter period a third growth was developed in the same locality, which was also removed by the knife. When admitted to my ward, there was found upon examination, at the lower and outer part of the thigh, a linear cicatrix about two inches long, beneath and adherent to which, as well as to the surrounding integument, was seen a tumor as large as a walnut, movable upon the deeper tissues, painless, dense, and irregularly nodular. There was no glandular enlargement observable, and no other tumors were present. The tumor was readily removed, being adherent only to the overlying skin, which is included in the incisions. Microscopic examinations showed that the neoplasm consisted entirely of large spindle-shaped cells, which contained large oval nuclei.

Selections.

MEDICINE.

Psoriasis Inveterata. —The following, by Dr. W. C. Reiter, Pittsburgh, Pa., we extract from *Squibb's Ephemeris*, September, 1882:

It was my misfortune to inherit, from my father, psoriasis inveterata, which he told me he had inherited from a long line of progenitors. In youth I had spots on my skin foretelling what adult age developed—psoriasis on the left leg and ankle—the same place on my body perfectly imitating my father's plague. He was never healed, although he sought medical advice in Europe.

I was a country doctor, and carried a cane on horseback to relieve the agonizing itching of my leg in warm weather. One warm afternoon (about 1840, I think), I was going to visit a patient with an old farmer, when he exclaimed, "What makes you tear your leg so furiously with the end of that hickory stick?" I replied, "To relieve the maddening itch of my accursed tetter." He said I must cure it; told me he had been afflicted with it on his hands so severely that he had lost his nails. He said I should gather burdock seed and put whisky on it, and take internally. I obeyed; put quite a quantity into gallon bottles and added whisky, of which I had but little; in the others I put alcohol, and stood them in a warm place. After some weeks I began to take a tablespoonful thrice daily, using that steeped in whisky first.

After taking all the whisky tincture I found slight improvement in tetter, but a vast power had been bestowed on my stomach. All my life I had to deny myself many things or suffer; now I could eat sauerkraut, turnips, mince-pie, etc., etc., and only knew I had a stomach from that singular delight we all feel in satisfying a keen appetite with luscious food.

I now began to take the alcoholic tincture and found an entirely different preparation. I had to add water, and discovered resin, and at the bottom of each bottle, oil; here was a hint. I put alcohol on the seed which had been macerated in whisky and obtained a resinous tincture. When my old friend and benefactor prepared his tincture, whisky was distilled in copper stills and came off as proof spirits; my whisky was manufactured by steam. My disease improved rapidly and ceased to torture me, although the skin remained dry and furfuraceous.

On the advent of summer I observed in washing my hands (a doctor must do that often) a great increase in sebaceous secretion, which required much soap to remove; now my whole cutaneous surface acquired a condition of the most perfect health. Whilst afflicted with tetter I had learned to eschew hog meat—a meal of sausages or ham was always very aggravating—I became a very sincere and faithful Jew in avoiding swine meat or fat as a diet. For almost forty years I had a healthy skin; but my European tour in 1875 restored my old malady in an aggravated form. Their water, in many of the southern parts full of dolomite, both for drinking and washing, may have contributed; but sandwiches of cold ham and Bologna sausages were the chief enemies. On my return I could not get the tincture, and, when obtained, its effects were not as before. The taste was not a pure, agreeable bitter, but nauseous. Whether this was owing to mould on the seed or to the druggist having ground them, or to the climate I could not tell; Mr. Holland said he had bought the seed in New York.

A pupil of mine, Dr. Clark, took my place (in Mount Pleasant, Westmoreland county, Pa.), when I came to Pittsburgh. He was so kind as to have quite a lot of seed gathered for me; I prepared the tincture myself and am now perfectly well. I felt that it restored a perfect digestive power which my stomach lacked, and hence have prescribed it in atonic dyspepsia with such success that Mr. Holland can with difficulty supply the demand; the crop last summer was impaired so much by drought that he was compelled to order the seed from several Western States, and still believes that he will run short before the new seed can be gathered. I send to you some of the oil obtained from the bottom of the tincture bottle; some resin I found on a board last fall under a bushel percolator, from which I thought dripping had ended; I send two kinds of tincture, one obtained from contused, the other from whole seed. It can be made in a few days by heating alcohol and keeping warm; the cold preparation is very tedious; much alcohol is lost, the seed absorbing it. We have lost much resin, which clung to percolator and seed; we now save that by washing seed with warm alcohol, which we use for our fresh seed. The therapeutical action I could best reduce to form by calling it an alterative stomachic; it appears to improve all the nutritive, secretive and assimilative functions. I prescribe from two to four drachms, well watered, a half hour before each meal.

By the way, did I send you my little monograph on diphtheria? If not, I will send one right away. I have, this winter, verified my discovery perfectly. *Diphtheria is a functional disease of the liver.* This organ has lost its power of destroying fibrine, of which Brown-Sequard says: "The liver, in a healthy adult, metamorphoses eighty ounces in twenty-four hours." Here you have the remote cause—*inspissated* blood—and the theses of infection, contagion, micrococci, etc., are moonshine, transcendental tomfoolery. The proximate cause—*too much fibrine in blood.* Where a case has not reached a fatal condition, from 24 to 40 hours' medication effects a cure. Hear and ponder this: A few weeks ago Dr.

Joseph D——, Jr., lost a fine boy of five or six years with diphtheria. The second son took it, and meeting him one morning on the street, I stopped to inquire about his son. He said "they thought him better." Dr. McC—— was with him, and said to me: "I was going for you to visit and treat my son Jim. He was out and apparently well yesterday, and became suddenly and alarmingly ill early last night; his pain in the head is alarming; has but little exudation in his throat."

The patient Jim is a very bright boy of eight years, and much attached to me. I said to him, "Jim, how are you?" Placing one hand on vertex and other to forehead he exclaimed, "Oh, Doctor, I have such pain through my head." His throat had that *intense erythematous redness* which is pathognomonic of diphtheria; a few spots, like milk-stain, were the only exude. His skin was very pale and very hot, and his pulse very tense and quick, frequently not over a hundred.

I pronounced it a very grave case, gave him one scruple of calomel on a teaspoonful of cold water, and prescribed ten grains to be taken every hour. I ordered five grains potass. chlorat. in solution every third hour. Gum-water, barley gruel, lemonade and cold water *ad libitum*. My visit had been at 9 a.m.; saw him again at 1 p.m. and 4 p.m. but found no improvement. I live in the country, seven miles east of the city, on the Pennsylvania Railroad, and came to city at 8 p.m. to see Jim. His father and Dr. A—— said he had improved. I could not discern it. Begged the mother to continue ten grains every hour until I came again. She did, *faithfully*. I saw him at 8 a.m., and said: "Jim, how are you?" He sprung up on his rump and exclaimed: "Doctor, make mother dress me; I am well and want to go down stairs." After midnight he had begun to sleep peacefully, skin became cool, pulse softened and became full, bowels moved three times copiously, voided urine freely, and said his headache had gone. The interval was increased to three hours, but calomel was continued until dejections were watery, with green gelatinous masses like fresh water polyps.

Dear Squibb, smoke that in your meditative pipe—a boy of eight years, with a half ounce of calomel in his *prima viæ, not prostrated, but restored.* Trousseau is the only medical writer I know of who has not only seen, but has most accurately and graphically described all the protean forms of this most fatal malady—and not one of them escapes a clear and most rational explanation by my etiology.

Borrow Trousseau's Clinical Medicine, Vol. ii., and read it. I know it will not only instruct, but delight you. I must here say—my cases have been hundreds—never saw hypercatharsis—have had to give salines—never saw salivation nor other mal effect.

Latterly, now and again, one of our younger medical men, disheartened from failure, will dare to try my treatment and "be born again;" and they become *bold defenders* of the faith; some will half try it in small doses, at long intervals, and say it is a deception; never suspecting the damning lie in their own minds and hearts. I met a fellow once at the bedside of a dying boy of seventeen years, who told me he had *even given my medicine*—and a scruple dose of it. I said, "When?" He replied, "About an hour ago." I told him he should have spared the calomel and made a rational prescription. He asked, "What?" I told him, "A shroud and coffin." I am wearied by the conflict I have had with stupidity, bigotry, mulishnesss, vain conceit, etc., these many years. Should I take a trip to recuperate, when I get well enough, would you, or could you, find a few medical men of the "Scholar Class," humble, earnest workers, who would lend an attentive ear to my story? I want my profession to wipe this opprobrium medicorum from our glorious old escutcheon.

I forgot to tell you that when my old farmer friend, Mr. T. told me about losing his finger nails, I was incredulous, and tolerated the license permitted the ignorant and poets in hyperbole—my last attack has vindicated the good old man's veracity. I can show you the nails on both of my thumbs, now almost restored to pristine perfection, but two years ago they were hideous in their malformation and ruin. The disease established itself at the matrix, and the progeny was a fearful monstrosity, all its surface was what Ovid vividly calls or describes as "disjecta membra."

For the doses recommended by Dr. Rieter, namely, a tablespoonful thrice daily, immediately after meals, a tincture should be made about as follows:

Take two pounds of the fresh burdock seed and grind it in a good sharp coffee-mill, putting it through several times with the mill screwed up as closely as possible, until the seed is well broken up, though it need not be in very fine powder, for it is the bruising or contusing effect of the mill teeth that is needed. Put equal parts of the ground seed in two one-gallon bottles, and fill them up with good whisky not less than two years old. These should stand in a warm place, with occasional shaking, for a couple of weeks, when the clear tincture will be ready for use. In an alcoholic preparation like this, which is to exert a prominent effect on the stomach, good whisky, if old enough, is very much better than a diluted alcohol of the same alcoholic strength. If to be taken in doses of one or two teaspoonfuls or less, as with tinctures in general, the alcohol is as good or better than whisky would be for several reasons. But when the dose exceeds two teaspoonfuls the menstruum becomes an important therapeutic element, and then good, natural whisky or brandy of sufficient age should alone be used. Of course, it is possible for a manufacturer to make such a preparation as this, but there is not the slightest reason for his doing so. Any good pharmacist or any physician can make it best for himself, and should do so if it is to have a fair trial, for he can then control all the conditions necessary, as, for instance, the having the seed of the right plant, having it fresh, having the proper menstruum, and having it perfectly managed. Anyone, therefore, who wishes to try Dr. Reiter's treatment should follow his directions and example in preparing the remedy for himself, or at least having it prepared immediately under his own eye; and in an inveterate disease like this, so simple a plan of treatment is well worth trying upon so good an authority as Dr. Reiter.

Dr. Reiter has aimed at getting a saturated tincture, and has used the fresh seed unbroken. But it has often been shown on other similar seed that they should be broken or crushed, and that when crushed a smaller proportion was needed. It is hardly doubtful that the above given proportion of two ounces of crushed seed to the pint will give as strong a tincture as six ounces of unbroken seed to the pint would give.

The maximum dose of Dr. R., as above stated, is four drachms, well diluted, three times a day, immediately after meals, to be continued for months if necessary, if the disease does not yield sooner; and improvement and restoration may be expected earlier in warm weather than in cold, according to the experience of Dr. R. Relapses are not frequent, and are confined to persons who are gross feeders.

In cases of atonic dyspepsia, without cutaneous eruption, he also finds it useful, but here never prescribes more than a dessert-spoonful, and that before meals, well diluted.

INTESTINAL FUNCTION.—An almost untouched field has been explored by Nothnagel, in his latest study of intestinal function. Of the effect of various chemical substances on unstriated muscle we know almost nothing, and this has been the subject of his investigations, the results of which are of great interest as well as of novelty. The investigations were made on etherized rabbits, the open abdomen being immersed in a warm neutral solution, and the substance to be tried was gently placed in a solid form, on the external surface of the bowel. It was previously ascertained that the mechanical irritation thus caused was too slight to produce any effect on the muscular tissue.

The first important fact ascertained was that there is a fundamental difference in the action of potash and soda salts, and that this difference depends on the alkali, being irrespective of the combination in which the alkali happens to be. However similar, for instance, in general action is bromide of potassium to bromide of sodium, there is a marked contrast in their effect on the intestine, due to the basic alkali. If a salt of potash is placed on any part of the bowel, large or small (the cæcum for the present being excluded), a strong muscular contraction results, which remains limited to the part touched, or merely extends around the intestine in an annular form. On the other hand, if a soda salt is employed, a contraction is produced which does not remain limited to the spot, but extends from it several centimeters, and always upwards, towards the pylorus. The result is uniform in cats as well as in rabbits, and there is no reason to suppose that it is not true also for the human intestine. The fact may sometimes be of use to operators. If, for instance, a small piece of the bowel is exposed and it is desired to known which is the upper and which is the lower portion, all that is necessary is to place upon it a fragment of common salt—a perfectly harmless procedure—and a contraction will occur, and will pass invariably upwards.

The contraction produced by potash, although so limited, is very energetic, completely emptying the bowel at the spot, and the local contracted part may be concealed, being overlapped by the adjacent uncontracted part, so abruptly limited is the contraction. The local contraction does not seem to set up actual peristaltic action, any slight movement of this character which is observed being apparently due to the distension of the bowel above by the inference with movement of the contents. In order to produce the contraction, the potash salt need not remain in contact more than from half a second to one second, and the interval between the commencement of contact and of contraction is from one-eight to six-eights of a second. The contraction always begins at the spot touched. On the other hand, in the case of the soda salts, the contraction sometimes begins at the spot touched, but very often a few millimetres higher up, the spot actually touched remaining uncontracted, a phenomenon never observed with potash salts. The contraction then extends upwards as already mentioned, until six or eight centimeters of the intestines may be reduced to a pale empty cord. The constriction lasts from five to thirty seconds, and then goes off gradually with some slightly irregular peristaltic waves. The duration and intensity of the effect seem to depend to some extent on the degree of irritability. Below the point of application the bowel is for the most part still. The application of the soda salt to any part, for less than one second, often has no result. The application has usually to last for two or three seconds. The latent period before contraction begins is from two to ten seconds. The contraction does not last so long as that which is produced by the potash salt. Experiments on cats yielded similar results, the only difference observed depending apparently on the greater development of muscular tissues in the intestines of the cat.

Observations on the action of other substances showed that only ammonium compounds produce the same effect as the soda salts—*i.e.*, an ascending contraction has a different effect. Common alum causes a slow and comparatively feeble contraction, remaining limited to the point to which the stimulation was applied. The effect of magnesia chloride and sulphate is uncertain; sometimes they cause a local contraction, sometimes none at all. Chloride of calcium produces a somewhat stronger contraction than chloride of magnesium, but sulphate of copper, chloride of silver, acetate of lead, produce only a local contraction, which comes on slowly and lasts a long time, often several minutes. Sugar and urea have no effect. It is very remarkable that the action of the sulphates of potash, soda, and magnesia, when applied to the outside of the bowel, should be so widely different, although each produces the same effect when taken internally.

In considering the mode in which the effects were produced, only the effects of the compounds of potash and soda were considered. The first question was whether the contractions were to be regarded as the direct rsults of the stimulation of the muscular fibres, or as the effect of the excitation of any nervous elements. The local character of the contraction produced by potash makes it probable that the action is the result of the local stimulation of the muscular fibres. Nothnagel believes that the soda salts exert an influence, although feebly, on the muscular fibres, but it is is very difficult to decide whether the special ascending contraction of the soda salts is or is not due to a nervous mechanism. That it is, is suggested by the striking difference from the contraction produced by the potash salts. Experiments showed, however, that the contraction occurs even when the nerves of the mesentery have been divided, and the only nervous mechanism which could co-operate in producing the contraction is the ganglionic arrangement in the wall of the bowel itself. That it does depend on this mechanism is probable from the considerations, first, that the contraction begins not at, but a little above, the point touched; secondly, the longer latent interval; and thirdly, the fact that after the post-mortem peristaltic action has ceased, and a similar contraction can sometimes be caused by soda, but never the characteristic ascending contraction.

A large number of experiments were made on other organs which are furnished with involuntary muscular fibres, under the same conditions. In the bladder the soda salts caused only a feeble and local contraction, while the potash salts had a much more energetic effect, producing an alteration in the shape of the bladder and not unfrequently the expulsion of some of its contents. Applied to the stomach both salts cause only a local contraction, which is sometimes absent when the soda salt is used. Neither caused any appearance of peristaltic waves. These results show that the potash salt has a more eneregetic local action on the bladder and stomach than the soda salt, and agree with effect on the intestine if the ascending contraction, observed in the latter, is regarded as produced through the nervous mechanism, and to this view they therefore give indirect support. How this local stimulation is produced is, however, obscure. That it is not due to the simple withdrawal of water is evident from the trifling effect of the chlorides of calcium and magnesium. Still more surprising and mysterious, however, is the remarkable fact that the contraction produced (probably through the nervous structures) by the soda salts should pass invariably upward. The fact is one which cannot be correlated with any other known facts in the physiology of the intestine, and it affords a glimpse into a class of phenomena of which at present we apparently know nothing.—*Lancet.*

EXPERIMENTS IN THE PHYSIOLOGY AND PATHOLOGY OF MUCOUS MEMBRANES.—In a series of articles recently published, Prof. M. J. Rossbach of Wurzburg, has contributed some original facts to the subject of the physiology and pathology of mucous membrane. His researches point, also, to certain new therapeutical methods in treating diseases of these tissues.

The experiments described were made chiefly upon cats. In these animals the trachea was opened and the appearance of the mucous membrane directly observed under various conditions. The tracheal membrane was found to be covered uniformily with a thin layer of mucus. If this were removed by gently applying absorbent paper, the secretion returned within from one-half to two minutes, but it was never secreted in sufficient amount to form drops. In other words, the action appeared to cease, or nearly so, as soon as the membrane was completely covered. The secretion of mucous is intermittent, not constant, according to Prof. Rossboch. He has hardly proved this point, however, since it is more probable that the secretion is a very slight but constant one, with exacerbations when any irritant is applied. Our author suggests that the mucin is first formed from the epithelium, and is then washed off or dissolved out by the alkaline fluid from the blood, a view that is probable. As regards the functions of this lining layer of mucus, Rossbach opportunely expresses the view that it has a protective function against the entrance of atmospheric organisms into the blood. Such a theory is plausible, and happily fits into the present pathological fashion.

Mucus is secreted equally well after the membrane has been severed from all the nerve-centres and trunks. There are, however, vaso-motor nerves running to it from various cerebro-spinal nerves; the mucous secretion is in a certain relation, therefore, with the nerve-vascular system.

Experiments were made to discover the effect of various drugs and reagents upon the tracheal mucous membrane. A hot bread-poultice was applied, then withdrawn and an ice-bag substituted. The membrane at once became whitened and bloodless. In one or two minutes this pale appearance changed to blue, showing venous stasis, and at this time a copious secretion was poured out. Upon repeating the applications of hot and cold, the same phenomena were observed but they came on more slowly and were less marked.

Prof. Rossbach's experimental studies with various drugs used in treating pulmonary or bronchial disease, lead to some conclusions that quite contradict ordinary views, if not ordinary experience. As regards the alkalies (carbonate of soda, chloride of ammonium, etc.), for example, Rossbach claims that they do not increase mucous secretion, but the reverse. He experimented by injecting these salts directly into the blood, then, watching the mucous membrane. After such injections the mucus was secreted more slowly and in less amount. The favorable action of alkalies in bronchial disease is attributed to a diminution of congestion and lessened secretion which they produce. Rossbach could observe no effect from the direct application of alkalies, as in inhalations.

The direct pencilling of the membrane with astringent solutions, such as alum, tannin, nitrate of silver in four per cent dilution, caused diminution of secretion and a clouding of the epithelium.

Experiments with oil of turpentine gave some interesting results. If air which had passed through turpentine were blown upon the mucous membrane the secretion was diminished or stopped. Direct application of turpentine in watery solution, however, caused an increased secretion with diminished amount of blood-supply. This substance is a most valuable one, therefore, says Rossbach, since it is at the same time an antiphlogistic and expectorant.

The chief direct stimulants of the mucous secretion were found to be apomorphine, emetin (from ipecac), and pilocarpin. Of these apomorphine is practically the best and most useful.

Of agents which lessen the secretion atropin was found to be most powerful, being able to check the function entirely. Morphine, on the other hand, reduced, by about one-fifth, the normal amount.

As a practical outcome of his experiments Rossbach cites a number of cases in which he has used the drugs above mentioned. In his opinion apomorphine is one of the best expectorants. Combinations of it with morphine are also effective.

Rossbach's views with regard to apomorphine are confirmed by Dr. Wertner, of Wartburg, who reports his experience in the *Pester Med. Chirug. Presse*. Jürgensen has also used it as an expectorant in catarrhal pneumonia.—*Medical Record*.

The Physiology of Secretion.—Dr. Gamgee delivered an interesting address on the growth of our knowledge of the function of secretion before the Biological Section of the British Medical Association. The following are his general conclusions. The complicated studies of the physiology of secretion have brought into greater prominence the dignity, if I may use the expression, of the individual cell. The process of secretion appears as the result of the combined work of a large number of these units. Each, after the manner of an independent organism, uses oxygen, forms CO^2, evolves heat and derives its nutriment from the medium in which it lives, and performs chemical operations of which the results only are imperfectly known to us, and which depend upon peculiar endowments of the cell protaplasm, of which the causes are hidden from us. So long as the protoplasm is living, the gland cell retains its power of discharging its functions, and in many cases does so, so long as the intercellular liquid furnishes it with the materials required. In some cases, however, the gland cells are specially sensitive to a variation in the composition of the nutrient liquid, certain constituents of which appear to stimulate the protoplasm to increased activity. In the higher animals, the cells, particularly in certain glands, are in relation to nerves which, when stimulated, affect in a remarkable manner the transformations of their protoplasm, leading to an increased consumption of oxygen, an increased production of carbonic acid, an increased evolution of heat, and an increased production of those matters which the cell eliminates and which constitute its secretion.

This historical survey of the growth of our knowledge of the process of secretion exhibits the characteristic features of biological advancement. Comparative anatomy has been the foundation of, observation of facts and physical experiment the road to physiological research. At various stages the value of hypotheses have been well illustrated, and whenever they have had to make way for the broader and truer interpretations suggested by the accumulation of facts and greater precision of observation, it has been demonstrated that the process of observation is not one of simple sight, but of complex ratiocination.—*Lancet*, Sept. 2, 1882.

Cerebral Physiology; the Crossed Action of the Brain and Medulla.—Dr. Brown-Séquard has continued his vigorous criticism of modern neurological theories in another communication to the Académie des Sciences. He pointed out that these doctrines rest upon two kinds of proof, to one of which his paper was devoted—namely, to the evidence which has been drawn from the phenomena observed when various parts of the cerebrum are irritated; phenomena which consist chiefly in the movements of the limbs on the opposite side. The foundations of the doctrine that movements of one-half of the body are innervated from the opposite half of the brain have been considerably strengthened by the experimental and clinical facts on which the theory of psycho-motor centres rests. But to this doctrine Dr. Brown-Sequard states that his own experiments are absolutely opposed. The numerous researches which he has undertaken during the past four years, seem to him to involve conclusions exactly contrary to the opinions which are universally received. For example, against the assertion that the irritation of the motor region of the brain uniformly produces movements in the limbs on the opposite side, he opposes certain experiments of his own. These show that irritation of one side of the pons varolii or of the medulla, even of the anterior pyramid, causes, eight or nine times out of ten, movements in the limbs on the same side, and the same effect is observed when, after a transverse division of one-half of the medulla, the superior part of the pons is stimulated mechanically or by electricity, in the part considered as a motor. Irritation of the cerebral peduncle in the part considered as motor often causes movements of limbs on the same side. This result occurs five or six times in ten when the peduncle is irritated in its inferior part, and two or three times in ten when the stimulation is applied to the upper part. If the fibres are galvanized which pass from the corona radiata or corpus striatum to the peduncle, movements are often observed on the corresponding side of the body. If these parts are divided transversely on the right side or on the left, the mechanical excitation thus produced rarely causes movement, but when it does the effect is usually manifested on the same side as the irritation. Even stimulation of the motor zone of the cortex, as Couty has shown, sometimes causes movements on the corresponding side. Moreover, Dr. Brown Séquard has repeatedly shown that if this zone is galvanized, after the latteral half of the medulla or of the pons varolii is divided, the movements of the opposite limbs, instead of being prevented by this section, occur with still greater force than before the division of those conductors which have been believed to be alone capable of transmitting the stimulation of this zone to the limbs.

According to received doctrines, if one latteral half of the cervical cord is divided at the level of the second pair of nerves, and different parts of the brain are then stimulated mechanically or electrically, on the same or on the opposite side to the spinal lesion, no movement should occur, or only a very slight movement in the members on the same side as the lesion. But Dr. Brown-Séquard finds that under these circumstances, stimulation of the brain causes energetic movements of the limbs, such as a "bipedal" movement, diagonal or lateral, to right or left, or a movement of three, or even four limbs. He concludes from this that one-half of the cord will suffice to transmit to the limbs, on both sides of the body, the excitation caused by stimulation of the opposite side of the brain.

According to received doctrines the transverse section of the two lateral halves of the base of the brain, the one section at a distance of one centimetre above or below the other, ought to destroy all or almost all communication between the spinal cord and the portions of the brain above the higher section, so that mechanical or chemical excitation of the cortex should cause no effect on the limbs. But Dr. Brown-Séquard asserts that under these circumstances not only does stimulation of the motor, such as the opto-striate bodies. In this case, also, the effect is usually most marked on the same side as that stimulated. An analysis which Dr. Brown-Séquard has made of five hundred cases of unilateral convulsions in consequence of varied lesions of the brain, shows that the same result is true of man as of animals. Irritation of the base of the brain and the adjacent motor region causes convulsions more frequently on the side irritated than on the other. The superficial parts of the brain, it is true, produce chiefly crossed convulsions, but irritation in all parts may cause convulsion on the same side.

The conclusions drawn by Dr. Brown-Séquard are that one of the chief foundations for the theory of psycho-motor centres, and of the crossed functional relation between the hemispheres and the limbs, must be considered to have lost its value; and, secondly, that the excito-motor zone of the cerebral surface, and indeed all the excitable parts of the brain are capable of putting in action the limbs of the same side, as well as those on the opposite side, and that they may produce these effects after the transverse division of one-half of the pons varolii, of the medulla, or of the cervical cord, and even after two sections of the base, one the right half and the other of the left, provided a certain interval existed between the two.—*Lancet.*

ROY'S DISCOVERIES ON THE PHYSIOLOGY AND PATHOLOGY OF THE SPLEEN.—Dr. Roy's observations on the spleen afford a distinct advance in our knowledge of the physiology of that mysterious organ, and the term "discovery,' may very properly be used in connection with these researches, which teach us a novel and hitherto unsuspected function fulfilled by the spleen. It appears that normally (in cats and dogs, at least) the spleen alternately contracts and expands with great regularity, presenting systolic and diastolic phases about once a minute; and that it thus carries on its own circlation, independently of the general blood-pressure. With regard to the features of this action, we gather from Dr. Roy's paper (*Journal of Physiology*, Vol. III., No. 3) that this subsidiary circulation is comparatively sluggish, the ingress to the organ being very narrow as is shown by the absence of pulse-waves from the volume-tracing, and by the slowness with which the volume diminishes when blood-pressure is brought down by compression of the aorta. In extent, the splenic contractions are subject to variations, not only according as the contractions are those of a more or less bulky organ, but also of the actual force of contraction; there does not, however, appear to be any constant relation between bulk and extent of contraction. The organ is also subject to slow spontaneous changes of volume, and similar changes can be excited by slightly altering the chemical constitution of the blood. That the rythmic contractions are really due to the splenic muscular fibre, and are not merely of arterial mechanism, is shown by the analysis of curves in which the "Traube-Hering" rhyth has happened to supervene; the regularly irregular trace which appears under these circumstances, evidently results from the interference of two series (that of the specific splenic contractions) having a slower rhythm than that of other series (that of the arterial contractions), which gives rise to the Traube-Hering waves in the spleen, as in other parts and organs. The reaction of the splenic muscle to vaso-motor excitation, direct or indirect, is similar to that of arterial muscle. Excitation of the vaso-motor centre by dyspnœa, or by faradization, causes strong splenic contraction simultaneous with the increased blood pressure due to arterial constriction; excitation of the central end of the divided vagus or of the sciatic nerve causes contraction; or, if the organ happen to be in a contracted state, increase in the extent of the natural waves; and it is noteworthy that such centripetal excitation will cause splenic contraction after section of both splanchnics and vagi, thus indicating that there is some further efferent channel to the spleen. Peripheral excitation of the splanchnics or vagi, right or left, causes strong contraction; simple section of the splachnics or vagi is not followed by expansion, nor is the rythm altered, facts which go to prove that the splenic muscle is not maintained in tonic contraction, and that its rythm, unlike the Traube-Hering rythm, is not of central, but of local administration. With regard to the vagus, there appears to be some peculiar influence upon the heart's action proceeeding along this channel from the spleen to the medulla, as shown by characteristic "vagus-heart" pulsations during the splenic systole—by section of the vagi, the character of the former is abolished, the latter remain unaltered. For details of the method, we refer our readers to Dr. Roy's paper; it will suffice to state here that the volume of the organ was measured and recorded from the displacement of fluid contained, with the organ, in a rigid case.

This important accession to our physiological notions of the spleen will doubtless be extended, in Dr. Roy's promised communication of the effect on the splenic circulation of the injection of various chemical substances into the blood. The observations throw light into an obscure corner of physiology; and, while deprecating the building of flimsy pathology upon limited foundations, we may reasonably expect that these and further observations should help us to realize pathological aberration and therapeutic rectification of splenic function. But to judge of the influence on the economy of the physical function, also, must be more precisely known than it is at present. We know, for instance, that we can, in man, modify, by electrical means, the bulk and muscular action of the spleen. But we are yet comparatively ignorant of alteration in the blood which we thereby increase or diminish. But whatever our wants may be in respect to information and speculations upon the relation of the spleen to the blood-corpuscles, the knowledge of its autonomous circulation is an important addition.—*Gaillard's Medical Journal.*

CONTRIBUTION TO OUR KNOWLEDGE OF THE PERIPHERAL TEMPERATURE OF THE HUMAN BODY.—In his thesis for graduation at the University of Tübingen, Dr. A. Romer has reported at length certain thermometerical observations on the temperature of the human body, made on himself. Of this careful work we find in the *Centrlbl. f. d. Med. Wissench*, 1882, No. 46, the following extract, made by Prof. Senator:

Romer, while living as regularly as possible, first made some observations while holding the instrument in his hand. He found, during the course of the day, far greater variations in the hollow of the hand than in the rectum, where the temperature was taken at the same time. In the former, these variations reached 6.10° C.; in the latter, 1,21° C., only. Notwithstanding outside conditions were the same, sometimes within twenty minutes the temperature in the hollow of the hand varied more than 2°, yes, even 3°, while at other times it continued nearly the same. A carefully kept record resulted in the interesting fact, that there existed certain variations at certain times during the day, but on some days the maxima and minima appeared somawhat earlier and were not quite so great.

The course of the daily curve was found to be about as follows:

After the temperature has been comgaratively high during the night, in the morning at 6 o'clock a rapid fall takes place, reaching its maximum soon after dinner; between 1 and three o'clock, again, a rapid fall ensues, so that from two to three hours later another minimum is reached. Between 6 and 8 o'clock the temperature begins again rapidly to ascend, and only towards morning somewhat slowly declines again. This daily curve of the external temperature is in opposition to the rectal temperature, when compared with the daily medium. The latter shows from the morning at 8 o'clock till the evening at 9 o'clock, a higher temperature, but during all the other time of the twenty-four hours a lower one than the medium, while, with a few exceptions, the surface temperature records the opposite. A rapid fall on the surface corresponds to a rapid increase in the interior, and *vice versa*, only during the transitions apparently an exception takes place and the variations in the hollow of the hand appear about two hours earlier than those in the rectum, and happen once in the day oftener.

Other variations noted and which have formerly been observed already, are the following: The lifting of the arm causes a slight fall, the dropping of the arm a slight increase of the temperature in the hollow of the hand; impeding the venous or arterial circulation causes a rapid decrease; the same also rapid and severe cooling of even distant parts, as the legs. Digestion seems to have an influence after dinner only, but here a considerable one.

Certainly these variations are caused by the regulation of the heat of the body, according to which an increase of temperature in the interior must, in the healthy body, be compensated immediately by variation of heat on the surface. But this compensation is disturbed in disease; so that the thermometrical record in disease is hardly affected by these observations; but the latter teach us not to consider always even considerable variations as a sure indication of disease; and it may be well to always takef in important cases, the temperature of the rectum, and to make a new number of observations of the human rectal temperature at night to find out the value of the statement, that even in the earliest prodromic stages of tubercular phthisis the thermometer (on the surface ?) shows an increase of at least one degree. If this should be found in the rectum also, and only in such cases, the fact would be of value; but if on the periphery only, then such persons would share this nightly increase of temperature with all healthy human beings.

We further learn from this, with what cautions any so-called diagnostic or pathognomonic sign should be received, and that such sometimes find a totally different explanation, because central experiments are wanting.—*Med. and Surg. Reporter.*

RELATIVE STENOSIS OF THE CARDIAC ORIFICES. Dr. Richard Henkirch, in the *Berliner Klin. Wochenschrift*, of June 12, 1882, advances a theoretical explanation of the transient heart-murmurs so often heard, and for which no anatomical reason can be found. In a normal heart the size of the orifice multiplied by the velocity of the blood-current must equal the cubic contents of the heart cavity, otherwise, if the latter be greater, we have stenosis. Hitherto but one factor has been taken into account, viz.: the diameter. of the orifice; but it is clear that if, with a normal exit, the capacity of the heart be increased, the former becomes relatively too small, and we have a relative stenosis. The auriculo-ventricular openings partake in the dilatation of the cavities —to such an extent, indeed, that the unchanged valves become too small and insufficiency results. But it is otherwise with the arterial orifices, which do not dilate as the ventricles enlarge, and hence become too small. As regards the third factor— the velocity of the blood-current—a certain relation exists between the capacity of the heart and the heart and the size of its orifices which permits of changes in the velocity of the current within certain limits. But when, through congenital defect or in consequence of pathological changes, the ventricle can barely empty itself, a slight increase in the velocity will produce a murmur. On the other hand, a pre-existing murmur may disappear upon retardation of the blood-current

—witness, for instance, the disappearance of a systolic murmur after severe hemorrhage or in the death agony. We should make a distinction between organic and functional or clinical stenosis. Since excresences and proliferations are so often found post-mortem, which gave rise to no murmurs during life, we cannot regard slight inflammatory exudations on the endocardium as a cause sufficient to account for all otherwise unexplained murmurs. In acute endocarditis, or during a high fever there may be a weakening of the muscular walls of the heart, and a consequent dilatation. Here the relation between the ventricle and its orifice is altered, and the latter becomes relatively stenosed. The sound produced is a faint blowing murmur, and since the left ventricle receives the greatest strain, it is the first to give way, and the murmur is heard loudest over the left heart. It is, of course, systolic, since it is caused by aortic stenosis. After copious hemorrhage loud, blowing systolic murmurs often arise, sometimes several days after the occurrence. These cannot be produced by the irregular working of the valves, owing to the diminished amount of blood, for they do not supervene until some time after, when the volume of blood is already restored to the normal through absorption of water from the tissues. The intracardial blood pressure is therefore nearly the same as before, but because of insufficient nutrition the muscular tone of the heart is lowered and dilatation ensues. When this condition exists, the orifice being relatively too small for the ventricle, only a part of the contents of the latter can pass out, the balance recoiling against the advancing blood-stream, and thus causing a murmur.—*The Medical Record.*

Locomotor Ataxy, of Syphilitic Origin.—When M. Vulpian asserted that almost one-half (40 per cent.) of locomotor ataxy were of syphilitic origin the proportion was considered to be much exaggerated; but since that period the researches and observations of M. Fournier have demonstrated that M. Vulpian's affirmation was correct, and the proportion given was rather under than above the actual number of cases. According to M. Fournir, in almost all cases syphilis has a part in the production of locomotor ataxy, and he gives the following rules regarding the management of the case:

1st. Always seek for any manifestations of syphilis in cases of locomotor ataxy.

2nd. If such exist, institute immediately prolonged and severe anti-syphilitic treatment·

3d. Syphilis should be energetically treated from the start, so as to prevent the occurrence of such serious accidents later on.—*Med. and Surg. Reporter.*

Oleoresin of Male Fern: Increasing its Efficacy Against Tape-worm.—According to E. Dieterich, the frequent failure of eleoresin of male fern as a remedy against tape-worm is to be ascribed to its irrational administration. It has been observed and known that the popular "worm-doctors," who use almost exclusively the oleoresin of male fern, and who hardly ever meet with a failure, administer the remedy in conjunction with caster oil, instead of following it by the oil after one or two hours, as is usually done by practitioners. The object is to bring the extract, in an unaltered or undigested condition, in contact with the worm. The experiments which have been made by one part of the oleoresin with two parts of castor oil have been very successful, and this mode of administration deserves, therefore, the preference. Oleoresin of male fern is apt to derange the stomach, and when enveloped partly in the oil, is likely to pass it more rapidly, which constitutes another advantage. The mixture has, it is true, an unpleasant taste. This may, however, be disguised by filling it in capsules of about 3 *gm.* (45 grains) each. The dose may be related from six capules (equal to 6 *gm.* or 90 grains of eleoresin, and 12 *gm.* of castor oil.) to seven or eight or more according to circumstances. It is advisable to empty the bowels on the preceding day day by a mild purgative, best by castor oil.—*Med. and Surg. Jour.*

Pityriasis Circinata et Marginata.—Emile Vidal describes a fungus parasite, which he claims to have discovered in this affection, and which he calls *microsporon anomœon* (*microsporon despar*). Examined with an immersion objective, No. 10 Hartnack, epithelial scales from a patch of pityriasis circinata exhibit spores of a diameter of one micro-millimetre, many even smaller, larger spores being the exception, never exceeding one micro-millimetre in diameter. The principal characters of this fungus are:

1. The diminutive size of the spores, and their great variation in volume.
2. A circular arrangement in the epithelial cells.
3. The scarcity of chains of spores.
4. The absence or great rarity of mycelium.

The fungus affects the superficial and, particularly, the middle layers of the epidermis. It is to be observed more especially upon the face, beard, and neck. The hair escapes, and its follicles does not become inflamed. The clinical signs of the affection are described, and its differential diagnosis with "pityriasis rosea, pityriasis versicolor, erythrasma, and trichophytosis circinata" indicated. V. has never seen the affection in persons of more than 40 years of age, and has never known it to spread by contagion. Its cure is easily affected by the use of ordinary anti-parasitic remedies.—*Ann. de Derm. et de Syph.* 2s. vol. iii, p. 22.

A Peculiar Form of Dermatomycosis.—H. Hebra describes a peculiar eczema-like eruption, consisting of papules and vesicles upon a reddened base, patches exuding and covered with scabs, with here and there, the epidermis stripped off even to the papillary layer. Morbid areas are not sharply circumscribed by healthy parts. The course of the affection is especially chronic, lasting for years, spreading and itching. The locality of the eruption was its most striking feature, it being symmetrically arranged on the throat, both elbows and knees, rarely elsewhere. Hebra declares the constant presence in this affection of fungus elements, shining and of small size, generally heaped into large masses resembling the fungus of tinea versicolor, with which disease, indeed, Hebra sees a possible identity. He treated these cases with unguentum diachyli until all loss of substance was repaired, and then applied Wilkinson's ointment for a week. In recent cases cure was secured in from five to six weeks. In old obstinate cases a 10 per cent. pyrogallic acid salve, and 5 per cent. solution of salicylic acid with starch were employed.—*Wien. med. Blät.*, 1881, iv, pp. 1195-1232; *Viertelj. f. Derm. u. Syph.*, ix. 1882, p. 141.

STUDIES ON MYXO-ANGIOMA OF THE SKIN, CLINICAL AND MICROSCOPICAL.—Read before the American Dermatological Association, Newport, R.I., August 30, 1882, by C. Heitzmann, M.D., New York:

Tumors of the skin, termed *angioma*, or *vascular* or *erectile tumors*, are of frequent occurrence. They appear either as purplish spots, sharply marked from the neighborhood, or as dark-red elevations, sometimes distinctly pedunculated. These tumors are more or less compressible; they, in the majority of the cases, are not congenital, but appear in early childhood, remaining stationary or slowly extending over the surface of the skin. Congenital angioma is known as *nævus flammeus*. It is sometimes pigmented, and is usually freely supplied with hairs.

We distinguish three varieties of angioma,—the simple, the lobular, and the cavernous angioma. In the first two forms, arterial, venous, or capillary blood-vessels may prevail, while in the third form the veins are mainly involved. In simple angioma we find a more or less uniform distribution of the blood-vessels, and between them, as a rule, myxomatous connective tissue, establishing the diagnosis myxo-angioma. *Lobular angioma* is composed of coils of blood-vessels, which are held together by a delicate fibrous connective tissue, between the coils there being coarse fibrous connective tissue. *Cavernous angioma* is venous in nature, and represents an imitation of the structure of the cavernous bodies of the penis. Angioma, though of a strictly benign nature, sometimes breaks open by ulceration and leads to hemorrhage, which becomes alarming only in the cavernous variety. The latter is sometimes painful in a high degree.

As therapeutical measures, excision, cauterization, vaccination, and the artificial ulceration by irritating remedies have been resorted to. Small tumors are best destroyed with smoky nitric acid transferred on the point of a hard wooden stick, which is simply saturated with the acid. Pedunculated tumors are cut off by a pair of curved scissors, the cut surface being immediately afterwards touched with liquor ferri sesquichloridi. Larger tumors need excision with the knife. Electrolysis serves in many instances for the destruction of the blood-vessels, if the negative pole of a constant electric current is brought to bear upon the newly-formed tissue by means of numerous applications with needles. Whether the success thus obtained is permanent will be demonstrated by observation of tumors operated upon for a number of years. The method is of too recent a date to allow any positive statements as to its value.

Myxomatous tissue, which is largely involved in the construction of myxo-angioma, appears as medullary, reticular, lymph, or adenoid tissue, and also in the form of a tissue resembling that of the thyroid body. Myxomatous tissue is present in large quantities throughout the animal body in the earliest stages of embryonic development. It also forms exclusively the tissues of transient service, such as the placenta and the umbilical cord. In the adult, myxomatous tissue is met with only in the vitreous body of the eye, in the lymph-tissue, including the layers widely spread over the so-called mucous membranes, erroneously termed adenoid tissue. It is most prevalent in the alimentary tract and in the mucosa of the uterus.

The reticular variety is the most likely to form soft, benign tumors, termed "myxoma," and this variety constitutes also the basis-substance between the blood-vsssels in the myxo-angioma. Here the blood-vessels are constructed of large endothelia, and are characterized by a comparatively wide caliber. In rare cases, pigment is found in myxo-angioma, which indicates a tendency towards the formation of a malignant type, the sarcoma (myeloma), especially the melanotic myeloma. If such a change takes place, the attempts at eradication of the tumor are usually not successful.—*Philadelphia Med. Times.*

A CASE OF SPONTANEOUS RUPTURE OF THE SPLEEN — DEATH. — F. M. Calkins, M.D., of Allegan, Mich., reports the following to the *Michigan Medical News*:

Mrs. C., æt. 45, farmer's wife, in usual health, retired to bed at the usual hour on the evening of Sept. 16. At about one o'clock in the morning she was awakened by a severe pain within the abdomen. She described the pain as tearing, as if something was giving way. I was not called until 12 o'clock, noon, and when I reached the bedside I found the patient pulseless and in a state of collapse. She rapidly sank and died one hour after my arrival. From the previous history it appears that thirteen years previous to her death she had suffered severely from malarial fever, which resulted in an enlarged spleen. The splenic enlargement increased in growth for about three years, when it apparently ceased to increase in size. The tumor, as examined through the abdominal walls, was located in the region about midway within the left lumbar and inguinal spaces and from its position had been previously diagnosed by some as ovarian tumor. The enlargement of late years had caused the patient but little trouble or anxiety. It sometimes at long intervals gave her a few hours of severe pain, but passing off left her apparenly well.

With the assistance of Drs. Amsden and Thomas, I made a post-mortem examination, twenty-four hours after death. We found upon opening the peritoneal cavity a large quantity of blood, which, being removed and weighed, amounted to six and one-half pounds. We next discovered a large blood clot in the left inguinal region, and in attempting its removal found it attached to the lower and convex surface of the displaced spleen. The spleen was lying in the lower lumbar and upper inguinal regions. Upon its removal we discovered a rent or tear upon its inferior and convex surface, measuring in length five and one-half inches. Its weight was two pounds and ten ounces, about six times its average weight. No microscopical examination of its tissue was made. Its peritoneal covering was, by inflammatory adhesions attached, to the abdominal wall, showing previous local peritonitis. The other abdominal viscera appeared normal. The general appearance of the spleen did not indicate great softening and its rupture was in our judgment due to over-distention of the organ by blood engorgement.

INTERMITTENT FEVER AND QUININE HYPODERMICALLY.—In the *Lancet* Dr. P. A. Smith contributes the following case: A sailor, aged 32, had been sick for three months, with continuous quotidian fever and scurvy. On the day after his admission into the hospital it was deemed advisable to test the statements he had made as to his febrile condition, by allowing him to remain in bed and giving no medicine. At 8:45 a.m. he felt cold, and at 9 a.m. his temperature in the axilla was 102° F., and at 11 a.m. 104°; after which there was a gradual decrease every half hour until 1 a.m. when it was 100.4° F. He was ordered a hypodermic injection of six grains of quinine at 8 p.m., to be repeated at 8 the following morning. It was reported the next day that he passed freely and without fever through the usual times of having the paroxysms. There was no increase of temperature and no uneasiness, and he says this is the first time he has been free from fever for the past three months. He had two injections at the same hours on the two following days, when it was noticed that the arm where the injection was given was somewhat tender, and the quinine was given by the mouth, dissolved in tartaric acid, which mixture was continued in diminishing doses for the next fourteen days. He daily gained in strength, and left, three weeks after admission, in excellent spirits. No slough or abscess marked the site of the injections, and the pain experienced at the time of injection was slight and soon passed away.—*Medical and Surgical Reporter.*

MUSTARD IN THE TREATMENT OF SMALL-POX. E. S. Lyndon, M.D., Athens, Ga., writes: Just before the close of the war, I was called to prescribe for a Confederate soldier, suffering with great nausea. A large mustard-plaster was ordered to be placed over the stomach. A few hours afterward my attention was directed to an eruption covering the part where the mustard had been placed. It was a well developed case of small-pox. There was no eruption on any other part of the body. The pustules were well developed, with the characteristic pit. I did not have another opportunity to try it, but believe a mustard-plaster applied to any part of the body will bring out the eruption twenty-five to thirty-six hours earlier than usual, so that a diagnosis can be made on the first day of the fever. I believe it possible to invite all the eruptions to any part of the body, and thus avoid the pitting of the face. And in malignant cases, where the poison produces death before the eruption appears, the mustard might possibly bring out the eruption and save the patient. The experiment is easy and harmless.—*Med. and Surg. Reporter.*

TYPHOID FEVER CONTAGION.—Tizzoni (*Annali Universali di Medicini e Chirurgia*) has recently studied typhoid fever communication, and after an extended series of experiments, concludes: First. The insoluble organic matter obtained from potable water by simple filtration, during a typhoid epidemic, may produce the principal clinical and anatomical phenomena of typhoid fever if injected in distilled water beneath the skin of animals. Second. The anatomical lesions of this experimental typhoid are produced by the presence of micrococci. Third. In some cases slight symptoms only are obtained. Fourth. Typhoid infection may be transmitted from animal to animal by injection of blood. Fifth. Typhoid virus has an elective action on the intestinal tube even when injected hypodermically. Sixth. The soluble or unsoluble substances found in the air do not produce typhoid fever when injected subcutaneously. Seventh. Typhoid phenomena are absent when the injection produces local suppuration. Eighth. The infecting substances lose their infectives when kept two months in a closed vase, and when the micrococci in them are no longer active.—*Gaillard's Medical Journal.*

IODOFORM IN TUBERCULOUS PHARYNGITIS.—At a recent meeting of the Soc. Medic. des Hôpitaux, M. Gouguenheim related the facts of a case of tubeculous ulceration of the pharynx cured by applications of iodoform. The different forms of tuberculous angina, well described by M. Isambert, were considered by him as fatal. In M. Gougnenheim's observations, applications of iodoform very rapidly induced cures os the ulcerations; it is true they recurred twice, but at present they seem to have definitely disappeared. M. Gouguenheim employs a solution of iodoform in either, but insufflations of the powdered drug may be directly used on the ulcerations. He concludes, from his observations, that iodoform is is a powerful modifying agent when applied to tuberculous ulcerations.—*Med. and Surg. Rep.*

NITRITE OF AMYL AND THE CATEMENIAL FLOW.—A. T. Bacon, of Kirkstall-road, Leeds, writes to the *Lancet* as follows:

I should be pleased to hear, through the medium of your valuable journal, whether any of your readers have observed what I believe to be a hitherto unrecognized physiological action of the nitrite of amyl. I have at present under my care a patient suffering from angina pectoris, who has been in the habit of inhaling the vapor of the nitrite to allay the spasm of that distressing complaint, and a married sister of the patient, who is suckling an infant, informs me that on entering the room, the atmosphere of which is impregnated with the vapor, the menstrual flow at once commences, and that on her leaving the room, and being no longer under the influence of the drug, it immediately ceases. The reason is, of course, perfectly obvious, but I cannot find any note of it in my books of reference. I have mentioned this to Dr. Clifford Allbutt, who has kindly seen the case of angina with me, and he suggests that as the drug might be used in such cases as puerperal convulsions, when such an action would possibly be in the highest degree prejudicial, I should be justified in giving publicity to this interesting fact.

OBSTETRICS.

A Successful Case of Transfusion.—A case was reported in the Obstetric Section of the British Medical Association, by Dr. Wm. Walter, in which transfusion apparently saved life after severe post-partum hemorrhage. The patient was confined with her second child, and the physician did not reach her till ten minutes after the expulsion of the child and the placenta, the labor having lasted only two hours. On his arrival the condition of the patient was most critical; she lay in a pool of blood, her face deadly pale, and the pulse scarcely to be felt. Her abdomen was distended with an enlarged uterus, that reached almost to the ensiform cartilage. Not a moment was lost in firmly grasping the fundus uteri, and in resorting to the ordinary means of checking hemorrhage, including the free administration of ergot; but no contraction ensued until the hand had been introduced into the interior of the uterus, and the clots which filled the uterus thoroughly removed; and these, when lifted into the chamber-utensil containing the placenta, completely filled that vessel. The uterine contraction was soon followed by dilatation, with a return of the hemorrage; and for an hour contractions and dilatations followed one another at short intervals, with repeated recurrence of hemorrhage. During this time, pressure over the fundus was maintained, and occasionally the hand was reinserted into the cavity of the uterus, and the organ manipulated bimanually.

Finally, permanent uterine contraction was secured, but the patient was *in extremis*, unconscious, with scarcely perceptible respiration, and the pulse only to be felt at intervals. Transfusion was at once decided on, and performed as soon as practicable, the patient's mother furnishing the blood. Only four ounces had been withdrawn from the latter when one of the medical attendants reported that the patient appeared to be dead. Without further delay these four ounces were defibrinated and injected into the vein, which, from its collapsed condition, had been found with difficulty.

In from ten to twelve minutes all the blood (nearly four ounces) was injected, and the patient's arm bound up. Almost immediately respiration became distinctly visible and audible, without the occurrence of any dyspnœa; the pulse at the same time returned to the wrist; and, in the course of a quarter of an hour, the insensibility gave way to consciousness, and she was able to recognize her friends. Her convalescence was steady and uncomplicated; and within a month she was able to walk out of doors.

It is noted incidentally that the mother, from whom the blood was taken, and whose menstrual period was due in two days, did not menstruate that month, though otherwise always regular.—*Boston Med. and Surg. Journal.*

SURGERY.

Some of the Facts of Listerism, with a Commentary.[1]—By Chas. B. Nancrede, M. D., in *Archives of Medicine:* Surgeon to the P. Episcopal Hospital, Phil.; Fellow of the Academy of Surgery, Phil., and the American Surgical Association.

Lister and his followers claim that by the recognition of certain general principles suppuration may be avoided, or at least reduced to a minimum; that at the present time certain procedures have been found to ensure this success better than others, but that as the method has been much modified in the past, it may very probably be simplified in the future; and very justly maintain that the *indications remain the same*, the methods may vary without the essentials of Listerism being altered. They contend that asceptic surgery does not consist in the use of the spray, or any special dressing, but in complying as perfectly as possible with certain principles. It is not pretended that under favoring circumstances essentially similar results may not be obtained *exceptionally*, but it is asserted that, under the most unfavorable circumstances, where, previous to the introduction of Listerism, certain operations were almost invariably fatal, a dangerous mishap is as rare now as a recovery was before. The Lister school has been unfairly charged with making very absurd statements, but my last sentence really contains what they actually claim.

Let us now examine the results obtained in all the cases treated asceptically by various surgeons.

In his least healthy wards, Lister for four years suspended the annual washing. He overcrowded them, having several patients in *one* bed. The dressings were untouched from six to eight days, with but one case of pronounced pyæmia. In the same hospital he treated another series of operation-cases, etc., with ordinary methods then in vogue. They amounted to several hundreds, and covered a sufficiently long period of time to eliminate any probable sources of error. As compared with his aseptic cases, he had nearly double the mortality, and that from septic disease.

Volkmann, of Halle, when he commenced Listerism, was in such despair on account of the unsanitary condition of his wards as to be on the point of demanding their closure. As an instance, in 1872-3, he tried to save—and they must of course have been comparatively simple ones—16 cases of compound fracture, and 12 rapidly died of pyæmia. Under Listerism, from 1873 to 1877, he tried conservative treatment in 75 complicated fractures in 73 patients *without a death*. Let me give all his operations at his clinic, from March 1, 1874, to March 1, 1877:

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[1] Read before the Phila. Acapemy of Surgery, June 4, [illegible], to open a discussion on Antiseptic Surgery.

AMPUTATIONS, SIMPLE.

	Cases.	Deaths.
Shoulder,	4	1 in 4 hours.
Arm,	14	——
Forearm,	23	——
Wrist,	3	——
Hip,	2	1 in 4 hours.
Thigh,	42	1 in 24 hours.
Leg,	25	1, erysipelas.
Parts Foot,	42	——
	155	3, shock; 1, erysipelas.

AMPUTATIONS, COMPLICATED.

	Cases.	Deaths.
Double,	9	2, of both thighs.
Serious Multiple Lesions,	9	6 in a few hours.
During septicæmia,	15	8 " "

One case at 60 years, died of delirium tremens.
One tubercular case, died of pneumonia.
One shoulder aborted and died of puerperal fever.

In these latter cicatrization was nearly complete.

RESECTIONS, SIMPLE.

	Cases.	Deaths.
Shoulder,	7	——
Elbow,	2	——
Wrist,	2	——
Hip,	48	4 { 1 child, 9 months. 1 child, 2½ years. 1 after 3 months.
Knee,	21	1, tubercular meningitis.
Ankle,	5	——
	85	5 in all

Four excisions in pyæmic cases, *all fatal.*

SECONDARY AMPUTATIONS.

	Cases.	Deaths.
Thigh,	1	——
Knee,	4	——
Leg,	42	——
Arm,	6	——
Elbow,	5	——
Forearm,	15	——
	73	
Hydroceles incised,	45	——
Resections for false joints or vicious callus,	10 (9-1).	—
Osteotomies,	50 in 38	1, in a bleeder.
Amputations of Breast,	119 in 115	6 2, from erysipelas; one arising from a neglected dressing, one from a bed-sore. 1, shock. 2, exhaustion (pyæmia?) 1, malignant pustule.

If dissatisfied with the statements of continental surgeons, examine the opinions expressed by such men as Spencer Wells, C. Macnamara, Barwell T. Smith, J. Wood, Jonathan Hutchinson, Sir James Paget, Knowsley Thornton, etc., who, either in all operations or in certain of the more dangerous, extol Listerism in the highest terms.

Mr. Woods says: "I estimate highly the spray and gauze treatment in the opening of psoas, spinal, and other large abscesses for the first time."[1] J. Hutchinson says: "I have seen large abscesses opened under the spray and dressed with gauze, which did not suppurate further, and which behaved in a way wholly unexampled under the older methods of dressing. I have also seen many large operation-wounds so treated heal without suppuration, and without the slightest approach to a febrile condition." Paget says: "But there are some groups of cases in which I believe it would be absolutely wrong to dispense with any of the precautions of the complete antiseptic surgery. Among these are the cases of ovariotomy. * * * As with ovariotomy, and, I may had, all abdominal sections, so with osteotomy and the cutting into healthy joints. * * * These may now, with antiseptic precautions, be done with an almost complete safety."

"A few years ago I believed that I had never seen a patient recover after the opening of a lumbar or psoas abscess with a free incision. I could not remember one who had not died before the opened abscess healed. Of late years I have known such abscesses opened with complete impunity under antiseptic treatment, and there has seemed nothing but this treatment to account for the difference of the results."

I will now examine in detail the results of asceptic treatment in amputations, injuries of joints, compound fractures, etc.

Scrutinize Schede's statistics of septic and asceptic cases. Thus, of 377 amputations performed by Bruns, Bardelebem, and Billroth, there was a mortality of 29.18%, while of 321 amputations performed by Busch, Schene, Socin, and Volkmann there was a mortality of 4.4%.

Bardenheuer had no death during a year at the Colonge Infirmary, with the followidg operations involving bones.

41 amputations (17 of thigh) through bones.
10 " at joints (1 at hip).
53 excisions of joints (15 hip, 12 knee).
23 cases removal wedge-shaped pieces of bone.
5 operations for badly united fracture.
1 case trephining.
—
133

As to joint cases, Bryant has criticised the small number of healthy articulations opened by Lister, and that several were of the smaller joints; but Mr. Lister has frequently opened those affected with hydarthrosis, impending suppuration, joint abscesses, etc., in all 109 cases, with but three deaths, all from tubercular meningitis. Volkmann gives 31 wounds of joints and 2 incisions in joints, 33 in all, of knee, wrist, elbow and foot, with no death. He also gives 21 comp. fractures entering joints treated asceptically.

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[1] He means when not previously opened by the knife.

Resection resorted to $\left\{\begin{array}{l}\text{2 primarily.}\\ \text{5 secondarily.}\end{array}\right.$
Amputation required —3 secondary amputations.
10 perfect recovery, with free motion.
1 ankylosis (not seen for 10 days).
—
21 No deaths.

In four cases late treatment of gangrene compelled operation.

Nussbaum says: "This method opens up a new field to surgeons. By the aid of these precautions, joints and cavities of the body may be opened without danger;" this, too, in an unhealthy hospital. Hear Heuter: "It is with reason that I said, in 1870, that puncture of joints ought to be considered as a dangerous operation; it is with as much reason that I now affirm (1876) that one can practice this operation without danger."

After omitting all cases of compound fracture dying within forty-eight hours, or which required primary amputation, taking all Mr. Lister's hospital cases from 1871 to 1881, there are left thirty-nine fractures in thirty-eight cases with only two deaths, one of which was independent of the wound; thirty-one, or 81.5 per cent. were rendered aseptic, and all of them recovered, viz.: thirty-one compound fractures of the skull and long bones. In eighty-two compound fractures made by M. Lister, nearly every case pursued an aseptic course, but in one of these amputation was required; none died. These operations were performed upon the femur twenty-seven times; leg, thirty-one times; clavicle, three times; humerus, nine times: forearm, eleven times; and lower jaw, once—eighty-two operations in fifty-eight cases. The favorable results are not due to the youth of the patients, for they averaged as such cases do. Besides, he has had some twenty-two other operations on bones of such severity as to be dangerous, without a single fatality.

MacEwen reports an extraordinary series of osteotomies. His operation-wounds varied in length from ¾ inch to 1½ inches, and were held apart so that the air had free access to the bone. He has operated on 330 patients, producing in them 885 compound fractures, but in only eight did suppuration ensue. In only one instance was secondary amputation necessary, and here gangrene was produced by displaced bandages. Only three died out of 330 patients, one of whom had ten compound fractures, the deaths being from diphtheria, tubercular meningitis, and pneumonia contracted before the operation. Most of his cases were also cachectic.

The accidental compound fractures of Lister, Volkman, Schede, and MacCorman, in which an attempt was made to purify the wound, excluding all dying within forty-eight hours, amount to 164 cases, of which number only two died. Of 158 fractures of the extremities, secondary amputation was required in fifteen, secondary excision in five, leaving 138 cures with useful limbs. The intentional compound fractures of Lister, Volkmann, MacEwen, Bardenhuer, and MacCormac, number 530 cases with 1,072 fractures, with but three deaths, all of which were independent of the operation itself. In 766 limbs 1,068 fractures were made, and but four cases required amputation. Again, adding both classes together,. of 1,226 fractures of 924 limbs, 902 recovered, but nineteen required secondary amputation, and five secondary excision. Of these, five, or 0.72 per cent. died. Contrast this with the best results of compound fractures treated by the ordinary methods, viz.: 22 per cent. which were achieved at St. Thomas' Hospital. Finally, examine the results following free opening of psoas abscesses. By considering those lost sight of in Mr. Lister's report as dead, we have a mortality of only nine in thirty-seven, or 23.3 per cent. Some of the deaths were also due to phthisis, etc. This operation—which requires the greatest skill and attention to details—is that which has failed oftenest in other than Lister's hands, yet as Paget, Hutchinson, and Wood have pointed out, success is attainable. Can any candid mind refuse to believe statements coming from so many and varied sources? Many more such records of facts could be adduced in support of my position, but if what has been already said does not carry conviction with it nothing will. I imagine that no one present has ever succeeded in performing seventy-two major secondary amputations without a death. The surgeons who have given statistics are implicitly believed when publishing other than Listerian facts. Upon what grounds, then, have we the right to deny them credence where aseptic surgery is concerned?

I will not tire you with details of my own experience. My failures were many at first, my success was slow, but I am now confident that I can do still better. The traumatic fever was insignificant, the pain slight, the wounds remained white-edged, unswollen, and healed largely by first intention; the pus was insignificant and different from what was ordinarily seen; the wounds were perfectly sweet, even in hot August weather, after seven days; when sloughing of flaps occurred the discharge was as nothing, comparatively, and with no odor.

My statistics although quite extensive are, in my opinion, too small to be of any such determinate value as to warrant publication, although convincing to myself of the value of Listerism. I may say that my best results were obtained when the wards were overcrowded with suppurating wounds to a degree which should have certainly, according to Erichsen, generated pyæmia, etc.

What is Listerism? It is the prevention of putrefaction in wounds by the destruction of particles which induce fermentation, and which Lister considers are micro-organisms. Lister recognizes three main causes of suppuration, which, when overlooked, as they seem to have been by many surgeons in their application of his method, ensure failure, viz.: (1) Excessive tension of tissues; (2) direct irritation of the living tissues by the presence of a foreign body; and (3) direct irritation by germs which are usually suspended in the air. The omission of attention to the first two causes has usually resulted in disappointment, and in consequence the value of Listerism has been denied. A single tight stitch may, and failure to provide the most perfect outflow for the serous discharges, which are pecul.

iarly large from the irritant effect of carbolic acid, certainly will, ensure suppuration, although it may be aseptic. Again, irritation of the wound by deluging it at the outset and at each dressing with carbolic acid solution is almost certain to initiate the second cause of failure. The removal of the third cause of suppuration—and here is the point which most anti-Listerians overlook and then maintain that other methods besides the spray result in equally good results, *ergo* Listerism is false—may be effected either by the purification of the air, with consequent destruction of germs before they reach the wound; or, allowing free access to the cut surfaces, they may be afterward destroyed by germicidal applications, and subsequently kept out by appropriate dressings. What I have just described is Listerism, or the principles of aseptic surgery. The Listerian method consists at present of spray, gauze, etc., but this is only one method of application of the Listerian principle, which, as it has varied in the past, may do so in the future. The mistake so commonly made is, that the spray, gauze, etc., constitutes Listerism, *i. e.*, a certain principle of wound-treatment; forgetting entirely that Lister used none of these things in the past and yet got good results, that Trendelenburg uses no spray, yet is a strict aseptic surgeon, etc., etc. When a man dispenses with the spray the cry goes up that he has abandoned Listerism. He has abandoned the present Listerian method, but not the principle in most instances. Lister himself considers the spray as a convenience, which ensures results easily, and obviates the necessity for rapidity in operating and the deluging of wounds with an irritant like carbolic acid.[1] The most essential part of the theory is the thorough purification of every thing—instruments, hands, finger nails—which comes in contact with the wound, and keeping them so throughout the operation. The introduction of one infected instrument into the wound is vastly worse than the momentary deflection or cessation of the spray. If Lister had to give up any part of his method (mind, not principle) he would abandon the spray, because it is both theoretically and practically possible to render a wound aseptic without its aid, although we can have no certainty of attaining this end. From this we can see how many wound-treatments are practically aseptic, and why results analogous to Listers are obtained by surgeons who ridicule, while in reality profiting, wittingly or unwittingly; by, not his method, but his principles.

The chief objection urged against Listerism is that equally good results are attainable by means of cleanliness and hygiene. To this I would merely oppose the various facts that I have given, and especially that Nussbaum, with open method, disinfectants, etc., could get no such results until he instituted strict aseptic surgery, and that where this is impossible, he still has his old accidents. As von Buhl makes all the *post-mortem* examinations, and many practitioners and students see the cases, error can hardly arise.

Other objections from improper applications of Listerism I shall presently discuss. Another complaint is that carbolic acid is a poison. True, but almost never, and then chiefly when used antiseptically; *i. e.*, deluging the wound with quantity of the lotion. But Listerism does not consist in using carbolic acid. Salicylic acid oil of eucalyptus, and acetate of alumina[1] are nearly as good. In passing, I would say, as a proof of the aseptic method, Volkmann tried thymol instead of carbolic acid, when he rapidly began to get bad results from the use of this inefficient antiseptic, although the same cleanliness, etc., was observed. Again, expense is urged, but this is hardly true, as fewer dressings, greater rapidity of cure, the rare need for tonics, febrifuges, etc., etc., and the shorter stay in hospital, render it in the end no more expensive. Finally, it is said to be troublesome. After a little practice it is not more troublesome than other methods—and if it were, no right-minded man could seriously urge such an objection if the results are as they are stated to be.

There is one objection which is so illogical that I need merely mention it, viz.; that organisms are found under the dressings, *ergo* Listerism is a failure; or, in other words, the reasons assigned for success are untrue, therefore the success, which is demonstrable, is a delusion.[2] Did the earth cease to go round the sun because the older philosophers taught the reverse?

As time would fail for a thorough consideration of the subject, I will merely state a few bald facts as to the germ theory of putrefaction, referring my hearers to Cheyne, Pasteur, and others for details. One misapprehension must first be cleared up. Many surgeons confuse the germ theory of infective diseases, considering that they stand or fall together. This is a mistake, as there is no such necessary connection.

Fresh air frequently renewed, *i. e.*, oxygen, is more unfavorable to the growth of organisms than any dressing which imperfectly excludes the air. Indeed, Pasteur considers oxygen to be fatal for development of the *vibrio septica.* In other words, the open method is better than any form of closed dressing, except Lister's, in preventing the growth of organisms. Concentration of wound-fluids interferes with their development. thus explaining, in part, both healing under a scab, Guerin's cotton-dressing, and the open method. All forms of germs are not equally harmful, micrococci seem not to favor putrefaction, but bacteria do. The growth of some organisms is inimical to others. Bacteria do not develop from micrococci; these act differently with chemical agents, and have been seen to divide longitudinally, while bacteria do not Bacteria flourished in alkaline fluids. Micrococci flourish in a proportion of carbolic acid which almost totally prevents the development of bacteria.

Contact with healthy tissues destroys micro-organisms unless they are present in large numbers. In acute inflammatory affections or disease, organisms may gain access to the economy by other routes than by wounds. Organisms are always absent from chronic abscesses, but are equally constantly found in acute abscesses. If the latter are not opened early, these organisms are dead, since they soon exhaust their nutriment; they can be seen microscopically, but fail to develop when cultivated. Carbolic acid, unless much concentrated, does not kill, but *anæsthetizes* the germs and they cease to develop.

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[1] Lister has pointed out that with good hygienic surroundings the air probably contains very few germs, certainly none compared to those lodged upon instruments, adhering to the hands, etc.

[1] I have used this with quite as good success as carbolic acid.

[2] Stimson experiments as to the efficacy of the spray are so manifestly faulty as to demand no refutation. No one thinks of sweeping a room so as to raise a cloud of dust while operating!

Finally, as to the presence of micro-organisms in wounds treated aseptically. When the method has been properly carried out they do not appear until late in the treatment of the case, when the *dressings have been left on for a long time*, *i.e.*, the carbolic acid is, to a great extent, washed away or has evaporated. They appear first at the edges of the dressings, and travel from *without inward*. Where the wound remains aseptic *nothing* but *micrococci* are observed. Now note three things, viz.: micrococci are found in acute abscesses, the pus of which is sweet when opened; when in small numbers they, as well as bacteria, are killed by contact with healthy *uninjured tissues;* carbolic acid, like chloroform, will anæsthetize them, as it will the yeast plant, so that their destruction is not absolutely essential; Onimus and Dumontpallier showed long ago that minute proportions of various antiseptics destroyed the septicity, as proved by inoculation, of previously septic blood, without apparently affecting the vitality of the micro-organisms. The bearings of these facts upon the explanations of the success of the open, modified aseptic, and aseptic methods of wound-treatment are too manifest to need comment.

Examine with me the pathology of wounds, and its bearing on the reasons for the success of certain plans of treatment, bearing in mind the just-mentioned facts regarding micro-organisms. For those that repudiate the germ theory of putrefaction, I need only say that the measures which have proved most efficacious in excluding organisms from wounds have also excluded the causes of putrefaction, and that, as I hope to show, the results can be satisfactorily explained upon another basis, although I am inclined to the germ theory myself. I shall now quote extensively from a paper published by me just a year ago.[1]

"Let us first examine the condition of an amputation-wound after it has been put up. The capillary and smaller vessels are sealed by clots which extend to the next collateral branches; but of course, these same vessels, where not filled with hæmostatic plugs, are in an excellent condition to absorb anything brought into sufficiently close proximity. In a few hours, especially in women and children, where, owing to the thinness of the epidermis, the congestion is not concealed, a marked flush is seen. This increased vascularity is, of course, present in the deeper structures also. In the normal course of events this congestion is relieved by a more or less copious flow of serum, which is finally substituted by pus. As early as the third day—and I think that I have observed this change even before in quite a considerable number of cases,—by the aid of a lens, granulations may be seen springing up in those portions of the wound where perfect coaptation has been impossible.

"Let me recount one more set of preliminary facts experimentally proved by Billroth, viz., that an artificially prepared septic fluid can be placed in intimate contact with a *perfectly healthy granulating surface with impunity;* while another portion of the same, when injected into the cellular tissue, will rapidly destroy the animal, with the most marked septic symptoms.[1] He also states that since in compound fractures he has adopted the use of the plaster-dressing, the occurrence of septicæmia and pyæmia has been much less frequent in his practice.[2] By the more perfect quietude insured by the fixed dressing, the granulations are not mechanically injured by the frequent, although slight movements of the fragments; the muscles are maintained in a state of quietude, and consequently the pus cannot be either worked into the cellular interspaces, nor into the granulations, or breaches in them produced by movements of the fragments and injudicious handling. Now what is the most natural inference from this? Plainly, that which experience has already taught us, that perfectly healthy, well-formed granulations are an efficient barrier to the absorption of septic materials, at least for a time. I do not deny that acrid septic fluids, whether produced by the addition of a special ferment from without, or generated by bad hygienic surroundings, systemic conditions, etc., may, like caustic, rapidly destroy healthy granulations and thus allow of poisoning of the system, but I am prepared to maintain that for a considerable time they do prevent absorption. Besides, I have been so very often told by those who should know better, that a given wound was doing beautifully with a perfectly granulating surface, with the qualifying statement, however, that it refused to cicatrize as it should, and upon inspection have found that portion only of the professional opinion concerning the 'not healing' was correct, that I am always sceptical when I hear that a thoroughly healthy surface in all its parts immediately preceded septic trouble. It should also be borne in mind that all structures do not form granulations with equal rapidity, so that while the accessible portions of a wound may be to the eye healthy, other deeper parts may be in an exactly opposite condition.[3]

"Now let us examine the conditions of the wound, during the first forty-eight hours, as to sepsis. Whether we believe that suppuration—especially unhealthy suppuration — and septic trouble are produced by the importation of germs from without or not, there can be no question that the secretions of a septic wound, when applied to the solutions of continuity in other individuals, will produce a similar constitutional affection. What are the conditions most favorable to such absorption? Clearly the presence of a secreting surface capable of absorbing, and a favorable nidus for the development of the *materies morbi*, whether it be chemical or bacterial.

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[1] Archives of Medicine, June, 1881.

[1] Recent experiments upon this subject have given apparently other results.; but they are clearly explainable in accordance with my statement.

[2] Viewed in the light of the above-mentioned experiment, the explanation of such good results is readily discernable.

[3] A careful analysis of the course of the majority of cases of blood-poisoning in all its forms, will demonstrate that the commencement of the trouble, *although unnoticed*, dates back to the first three or four days after operation or injury—indeed usually within the first forty-eight hours some *slight* symptoms appear, the gravity of which time demonstrates.

"The study of the physical conditions favoring osmosis shows us that an over-full condition of the vascular system, by the comparative stagnation of the contained blood, retards, if it does not entirely prevent absorption. This distended condition of the vessels I have already said soon supervenes after operation, and in accordance with this fact there is a variable but distinct period before anything like marked fever shows itself. Soon, however, the overloaded vessels relieve themselves by a transudation of serum, or, perhaps more correctly, altered liquor sanguinis. This relative cessation of congestion acts in two unfavorable ways, however salutary it may in other respects prove, for it provides an abundance of a readily putrescible fluid well adapted for the propagation and development of bacteria and minute organisms, while at the same time it unloads the circulation to such an extent as, in the highest degree, to favor absorption. The normal vascularity of any part subjected to amputation is scarcely fitted for rapid absorption. The excessive primary vascularity just spoken of is still less favorable to osmosis, but the state of the blood-vessels, after their partial depletion, is such as to meet all the requirements for septic or other absorption. Soon, as we have seen, granulations commence to form, so that the risk of absorption is measurably diminished by the end of forty-eight to seventy-two hours. I would beg my readers to bear this fact in mind, as it gives the key, I believe, for explaining the success of von Brun's method.

"After these preliminary explanations, let us now—bearing clearly in mind the wound-conditions just described—examine what must be the indications to fulfil to avoid the risk of sepsis. Of course, no one doubts that if every wound could be made to unite by 'first intention,' or immediate union, the chances of septic infection would be almost, if not absolutely, done away with. To this end, the most accurate coaptation of the wound-surfaces, with their subsequent retention, is the primary essential. The most difficult portions to appose, and keep so placed, are the deeper parts, and the only agent likely to disturb the position of the flaps, after coaptation has been secured, is the accumulation of the secretions, due to some obstacle presented to their escape. Manifestly, then, the second indication is to secure free drainage. The third indication is clearly to remove inflammatory products as soon as secreted, so as to render impossible any accumulation of that putrescible fluid poured out from the cut surfaces, which affords such an admirable nidus for the development of septic poison.[1] This removal is of paramount importance, as is clear from our previous studies, for the first forty-eight or seventy-two hours. This indication is plainly fulfilled by free drainage. Fourthly, if possible, the secretions of wounds—which must be present to some extent—should be kept from chemical change, and rendered unfit for the generation of septic matters, by agents which, if possible, shall promote the formation of granulations. To sum up, the indications are: perfect coaptation, perfect drainage, disinfection, promotion of granulation, and rigid avoidance of any thing that can chemically or mechanically injure these safeguards of nature.

"Now, let us see how each one of the three typical methods of wound-dressing fulfils these indications, and whether the measure of success attained by each is not to be attributed to the degree of strictness with which they are carried out.

"Lister inculcates the most perfect coaptation, drainage, and disinfection which is practicable, with the least possible manipulation and after-dressing. Undoubtedly the carbolic acid, by coagulating the albumen in the tissues, forms a superficial, antiseptic, comparatively impermeable film, which, like that formed by chloride of zinc, remains until, by the formation of granulation, the slough—for such in truth it is—becomes separated. The antiseptic method certainly renders the wound-fluids unfit for the propagation of the septic poison; whether by preventing the formation of minute organisms or not, is beside our present purpose to consider.

"On the other hand, the 'open method' succeeds by very dissimilar methods in fulfilling some of the indications perfectly, while others it professedly and necessarily does not attempt. I say necessarily, because their fulfilment would inevitably prevent the carrying out of the others.

"Let us examine this method, as we have just done Listerism. The first indication, viz., as perfect coaptation as possible, is of necessity neglected, so that whatever advantage accrues from healing by primary union, is lost. In return for this, its advocates claim—and rightly—that the coaptation secured, although imperfect, is not disturbed by the accumulation of the discharges, and that they are prevented from remaining in contact with an absorbing surface for any considerable length of time, or in any quantity. By this removal, as soon as effused, of the wound-fluids, they maintain that chemical and septic changes are very unlikely, and should they obtain, do no harm, because the poison cannot remain in contact with an absorbing surface sufficiently long.

"I admit that the second and third indications, which amount to free drainage to prevent separation of wound-surfaces, and free drainage to obviate the risk of absorption by the long retention of the wound-fluids in contact with absorbing surfaces, are admirably fulfilled, but the fourth indication is certainly not fulfilled, other than negatively, if the strictly open method is used. The disadvantages inherent to this plan will be presently adverted to. The advantages of this method are clear and unmistakable, but are not dependent upon anything but the fulfilment of the principles pointed out, and upon which also depends the success of the antiseptic method.

"Finally, there remains for consideration the plan lately advocated by von Brun. Dispensing with the spray and the other elaborate formalities of the Lister operation, after its completion the stump is syringed out with large amounts, say half-a-gallon, of weak carbolized water; it is then dressed antiseptically, and left undisturbed for forty-eight hours. The dressings are then removed, and the stump treated by the open method. Subjected to the same critical analysis as the other two systems, we find that the most perfect coaptation possible, drainage by tubes, etc., prevention of chemical or other changes in the fluids, and treatment of the wound-surfaces by a coagulating agent, are relied upon, *and that this antiseptic condition is kept up for the first forty-eight hours;* in other words, until most of the primary danger is passed; because, as we have seen, healthy granulations are a protection against septic absorption, and their formation has commenced, and, in many cases, is well advanced by the time specified. At the end of the first forty-eight hours the troublesome details of the Lister antiseptic dressings are dispensed with, and the open method substituted. It is hardly necessary to point out that most of the good to be obtained by a Lister dressing is here combined with the advantages of the open method. In this plan, too, there is nothing mysterious, nothing occult, but the simple successful employment of certain well-established surgical principles.

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[1] Experiments have proved that pressure favors absorption, so that this accumulation is dangerous on this account also.

"Look at the results of Alanson's famous series of major amputations performed nearly a century ago. He coaptated the deep surfaces of the flaps by compresses, leaving the edges comparatively to themselves, thus securing the inestimable advantages of quick healing, free drainage, and—because nothing could accumulate in amount—freedom from septic absorption. Examine the records of Callender's admirable series of amputations, and upon what did his success depend? Was it not upon free drainage, absolute quiet of the limb, treatment of the wound surfaces with a solution of chloride of zinc, thus forming an impenetrable antiseptic slough, which, upon separating some days after the operation, left a healthy granulating surface, and, finally, upon rigid avoidance of anything that could injure the granulations, merely cleansing them with a camel's hair pencil dipped, and kept in the intervals, in an antiseptic solution? The limb, where opportunities served, was swung for some days before the operation, which, of course, rendered the patient accustomed to the new position. This, in part, obviated those movements which Billroth has show are apt mechanically to work the pus into the intermuscular spaces, where it can be absorbed, since it must then have broken down the barrier of the granulations.

"I maintain that the success of all these definite methods of wound-dressings, indeed, the good result achieved by every surgeon, is necessarily dependent upon the degree in which he succeeds, wittingly or unwittingly, in fulfilling the indications pointed out in this paper.

"Provided Lister's directions are properly carried out, his method, though at first troublesome, seems to me both theoretically and practically the best. To operate satisfactorily it demands skilled assistance, some experience, and the utmost attention to detail, combined with a thorough appreciation of the principles involved. By excessive care upon the part of the operator, skilled assistance may be dispensed with, although it renders the labor greater, and risks the success of the operation. It is utterly unfair to deliberately transgress those rules upon which Mr. Lister lays most stress as being essential to success, and then condemn his method. He distinctly says that carbolic acid is an irritant to the tissues, and, therefore, by a special protective specially tested, he keeps it from direct contact with the wound; otherwise suppuration will occur. As the spray itself is an irritant—any operator's hands will demonstrate this—special provision for draining off the excessive amount of serum poured out must be provided; yet, surgeons will almost hermetically seal a wound by stitches, straps, etc., thereby rendering suppuration from tension certain, when Mr. Lister has said that a single stitch producing tension will provoke suppuration. In this latter case, however, the pus does not become offensive.[1] Again, the less of the direct spray coming in contact with the raw surfaces the better, and yet we see a powerful atomizer spray playing directly upon the exposed peritoneum, cooling it, if not doing other fatal damage, when the cry is again raised that Listerism is worse than useless. But what I have just described is *not* Listerism. The magnificent triumphs in recent abdominal surgery, considered by the most noted operators to be due to the use of this method, plainly demonstrate what the method in proper hands is capable of. An ovariotomy can be usually done with impunity, with strict Listerism, in a general hospital, where, without it, certain death has been proven to be the almost inevitable results."

In considering such an important subject as wound-treatment, no personal bias should be allowed to influence us. As Paget has remarked, an immense improvement in the success following operations had taken place before the advent of Listerism, and he thinks that experience has demonstrated that from 60 to 70 per cent of patients are insusceptible of infective disease. That hospitalism is the only cause of pyæmia or septicæmia, and that mere cleanliness is the all-essential preventive, have been disproved by the statement of Prescott Hewitt and many other surgeons as to their experience in private practice, and I may have myself witnessed it on more than one occasion. Admit all that the opponents of Listerism advance concerning cleanlines, and hygiene, if Listerism will practically abolish infective diseases amid the worst surroundings, so that the results of operations at least equal those performed under the best circumstances, will not the application of the method with the most favorable surroundings prevent *all* that is preventable, viz.: all except those rare instances where blood poisoning has not its origin in the operation wound?

Statistics can go but a short way to prove the advantages of any mode of treatment. The rapidity of recovery, condition of the wound, which is supple and non-indurated, the slight fever, the absence of necessity for change of diet, lessened drain, slight pain, etc., must be taken into consideration as favorable to asepticism, and if such results are considerable the method will sooner or later be adopted by the majority of surgeons.

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[1] During the hottest summer weather I have dressed a bad compound comminuted fracture of the leg, where profuse suppuration had resulted from inadequate drainage, at intervals of from four to eight days, without the faintest trace of putrefactive odor being perceptible. Other similar cases could be cited which have been treated by the author, but which will suffice to prove the truth of my statements.

Gall-Stones Discharged through an Abscess in the Right Groin.—At a recent meeting of the Cambridge Medical Society, Mr. Wherry related a case of gall-stones discharged through an abscess in the right groin. It occurred in a woman, under his care, who had an obscure swelling in the right inguinal region; an exploratory puncture discovered pus too thick to flow through the canula, but a free incision let out thick pus and over a hundred gall-stones. The finger passed into the wound in the direction of the gall-bladder; a large drainage-tube was then tied in the opening, through which gall-stones still pass. There was no bile, and no fecal odor. The patient had a remarkable history. She was for several years subject to attacks like ague. One year ago she first noticed in the right side of the abdomen a swelling, which enlarged painlessly until it could not be spanned by her hand; her bowels were regular, and she had no jaundice. Two months later the swelling appeared, from her description, to burst inside her, and she was immediately seized with violent cramp-like pains in the right lumbar and iliac regions. The swelling diminished, and she had now attacks of vomiting of dark fluid every five minutes for five days, and during this time she ate nothing; but when the vomiting ceased she had a ravenous appetite, and was able to walk about. Altogether she had five similar attacks of vomiting, lasting from three to five days each, followed by several weeks of health.

Mr. Wherry mentioned a case of three fistulæ from the gall-bladder which led respectively to the duodenum, colon, and skin. A biliary fistula has been know to communicate through the open urachus with the urinary bladder. Gall-stones are reported to have been found in the right bronchus and in the portal vein. Cases of biliary fistulæ opening externally are said by Murchison to occur usually in women, and to be caused by gall-stones, and even when connected with cancer, either worms or gall-stones are also found. In reply to Professor Humphry and Dr. Paget, Mr. Wherry said that he thought there must have been an abscess near the fundus of the gall-bladder into which the gall-stones were discharged after adhesions in the neighborhood; that as there was no jaundice and no pain the inflammation was limited to the gall-bladder and cystic duct. No bile came through the external wound, and the patient had a prospect of complete recovery. Columbus mentions that in the case of St. Ignatius Loyola a gall-stone was found in the portal vein, and an undoubted case has been recorded lately.

Dr. Paget mentioned the case of a lady he had seen some years ago in a desperate state of illness, when there was great pain and tension of abdomen; and when an incision was made, no less than 160 gall-stones escaped, though not all at once. In this case the patient recovered and lived for years. He referred also to another case, in which the patient passed a big stone, but died from cancer of the liver.—*Med. Times and Gazette.*

Laryngeal Electrization.—The *Lancet* says that Rossbach has endeavored to discover whether the nerves and muscles of the human larynx can be excited directly by electrical stimulation applied through the skin, and his experiments enable him, he believes, to give an affirmative assurance. An individual was selected, tolerant of laryngoscopic examination, and a knob-shaped, moist electrode was placed midway between the larynx and the sternum, in front of the anterior edge of the sterno-mastoid, being pressed as deeply in as could be without causing much pain. The other electrode was placed in some indifferent situation on the back of the hand. With this arrangement, whenever an opening or closing shock was sent between the poles, on the side on which the electrode was placed in the neck, a distinct contraction could be observed. The vocal cord moved inward in its whole extent, together with the arytenoid cartilage. The closure contraction was the strongest when the cathode, the opening contraction when the anode, was placed on the neck. Immediately after the stimulation a movement of swallowing occurred, which rendered further observation impossible. If the stimulation was made while a note was being uttered, the effect was to increase the pitch without interrupting the sound. The effect is ascribed to stimulation of the recurrent laryngeal nerve.

Experiments with faradization yielded the following conclusions: The passage of a strong current transversely through the larynx, an electrode being placed on each side of the thyroid cartilage, had no effect on the vocal cords or on the arytenoid cartilages. The free upper edge of the epiglottis was drawn forward and its lower part backward. The aryteno-epiglottidean folds were moved inward, together with the false vocal cords. If one electrode was placed on the side of the larynx and the other on an independent place, the effect was the same, but was confined to one side. A slight movement of the vocal cord was produced by an attempt to faradize the recurrent laryngeal nerve of one side, and the effect was still more marked if an electrode was placed over each recurrent laryngeal, a distinct tremor of the arytenoid cartilages being produced. Hence, Rossbach concludes that, in addition to the reflex effect of a painful cutaneous stimulation and to the effect on the larynx of stimulation of the external muscles, electricity applied outside the larynx can directly stimulate, feebly but unquestionably, the laryngeal nerves. —*Medical and Surgical Reporter.*

OPTHALMOLOGY—OTOLOGY.

A Cerebral Centrum for the Color Sense.—Since it has been found out that many persons are what is now called color blind, the question has been raised by Dr. J. Samuelson, in Cologne, if there does not exist a special center, somewhere in the brain, for the color-sense. In a short, but very well written article in the *Centrlbl. f. d. Med. Wissench.*, 1882, p. 851, Dr. Samelsohn says, very correctly, that the question might be changed to the following: If there are cases of double sided hemianopia, in whom the sense is totally extinguished, Steffen (in *v. Graef*'s *Arch.* xxvii, 2 p. 6.) has found such a case, and remarks: should there exist one similar case—only one solitary one, but one undoubtedly of the same kind—we would have a clear proof that in the main central organ, the brain, the center for the sense of space and the sense of color are divided, no matter how near to each other they may be situated, but there is a special centrum for each of these senses.

Samelsohn now had such a case under his charge, exactly like the one published by Steffen, where, in consequence of an apoplectic seizure, the sense of space and light was perfectly intact, but where the color sense was utterly extinguished. He would have published this case sooner, and mentioned it before the Steffen's article appeared, in a meeting of his local medical society, but he hoped to be able to give the result of the post-mortem examination; but under the administration of the iodide of potash and electricity absorption was established, all the symptoms disappeared, and then a second seizure—due to an enormous effusion—brought about rapidly the fatal end, leaving the brain in such a condition where any attempt at finding this center, under the complicated morbid process, was utterly out of the question. But the fact has now clinically been established, that there exists somewhere in the brain, a special centrum for the color sense.—*Med. and Surg. Rep.*

TREATMENT OF SCROFULOUS ULCERS OF THE CORNEA.—This is a form of keratitis which often comes under the care of the general practitioner, and as injudicious treatment may lead to the formation of opaque cicatrices, the following recommendations regarding treatment, made by M. Dehenne in *Le Progrès Médical*, may prove of service:

1st. Instill daily into the eye four or five drops of the following collyrium:

℞. Atropiæ sulphat (neutral), gr. j
Aquæ destillat., f ʒ ii ss. M.

2d. Abstain from every form of metallic collyrium, which often leave indelible marks, veritable metallic leucomata. Do not use any collyrium containing eserine, for affections of the cornea are frequently accompanied by iritis, and there would be danger of formation of posterior synechiæ.

3d. Each evening insert between the eyelids, with a small camel's hair pencil, a portion, about as large as a pea, of the following unguent:

℞. Hydrarg. oxid. flav., gr. xv
Ung. petrolei, ℥ ss. M.

4th. Apply four times daily over the eye compresses soaked in warm chamomile tea.

5th. Administer a tablespoonful of codliver oil every morning.—*Med. and Surg. Reporter.*

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, September 30th, 1882.

The Week.

A TARIFF.—In a recent number of this journal we noted the arrival at the port of New York of thirty-five embryo doctors from Russia. For want of proper revenue laws there was no duty levied by the government on this importation of a job lot of doctors, they were one and all permitted to land and go scot free, paying never a red for the inestimable privilege of medicating the citizens of the great American republic. A protective tariff should be levied on all such importations. The primary object of a protective tariff is not so much to get revenue as to keep out the foreign made article. This is what enables manufacturers to enhance the price of the manufactured product. This country has mills and millers in abundance, and the parental hand of the government should protect them from competition with foreign manufacturers.

If an American doctor of distinguished and scholarly attainments so far forgets himself as to desire to practice his profession in most European countries, and goes there for that purpose, on arrival and making his business known, the fatherly hand of the government is placed on his head with the admonition that his American medical education does not count, and he must be placed in the hands of the native manufacturer, be worked over, reglazed and polished, for which process a duty is paid directly to the manufacturer and a registration fee to the fatherly government. The whole business means a tariff for protection to the native workmen.

Mark the contrast in this country: A man of attainments, or of no attainments, educated or ignorant, lands on our shores, no duty or registration fee to pay, locates in the State of Ohio, rents an office, has a sign painted and proclaims himself a doctor, solicits business and generally obtains it. While his neighbor, the product of one of our native mills, unable to display his ignorance in a foreign tongue, in many an instance modestly goes supperless to bed.

With due respect for many educated and cultivated gentlemen who have come to this country to practice medicine, very many others also come who are profoundly ignorant of nearly everything pertaining to medicine, but thoroughly versed in the knowledge that there is no protective tariff, no government authority to direct his steps to our native mills, and no registration required, no examining board, in fact no bars of any kind to forbid his ignorant use of deadly drugs in medicating our citizens.

Some States have done a good work in appointing boards of health and clothing them with power to regulate the practice of medicine. Such boards have accomplished much in freeing those States from the practice of unqualified men, both native and foreign; in other words, they have levied a protective tariff and proceeded to promptly collect the duties.

These State boards have directly elevated the standard of medical education in many ways, they say directly to the medical colleges unless you adopt and adhere to a fair standard of educational and examination requirements we will not recognize your diplomas. While the State of Ohio has no State board of health or registration law, neighboring States having such laws have indirectly caused Ohio colleges to advance their requirements for graduation. Only recently a mill at Columbus was notified by a neighboring State board of health that for registration purposes its graduates would not be recognized. This touched the sensitive nerve of the managers of the mill, and it is hoped a reformation will take place and a better quality of grist turned out. With improvement in quality will come a lessening of quantity, with a consequent increase of mill fees, all of which reacts as a protective tariff to the skilled workmen.

CINCINNATI HOSPITAL.—Dr. E. S. Walker has been appointed on the surgical staff of this institution, vice Dr. W. H. Mussey deceased. The appointment is a good one and our readers may expect to hear frequently of the Doctor's work in the wards through the LANCET AND CLINIC.

The regular clinical course of lectures will begin in the hospital October 2d.

MEDICAL COLLEGE OF OHIO.—The introductory address will be delivered by Prof. Ransohoff on Tuesday, October 3rd, at 8 o'clock p.m., in the lower amphitheatre of the College Building.

Miscellany.

THE AMERICAN STUDENT IN LONDON.—*The Medical News*, of London, publishes the following: "I have frequently been a listener during the time that discussions have taken place at a certain large hospital in London on the subject of American students of medicine. At the particular hospital in question, the 'Yank' is a recognized institution even now, but formerly it was a difficult matter for any Britisher to get within hearing distance of the principal members of the staff during their visits to the wards. Jonathan's representatives entirely shoved aside all who endeavored to see or hear, and having carefully surrounded the beds and the demonstator to the exclusion of regular students of the hospital, the lecturer would proceed, to the edification and, let us hope, instruction, of the untutored Westerns. Experiences of this kind have tended rather to exaggerate our notions of the offensive character of the American."

CARBOLIC ACID, according to Dr. Robert J. Lee, is the only antiseptic that can be volatilized in a definite and constant manner. This is a most important fact in treatment, and deserving attention. If a solution of one part of carbolic acid in eighty of water be distilled under light pressure, the vapor will contain the same proportion of the acid as the solution during the process of boiling; so that we can obtain vapor of any strength and diffuse it in the atmosphere. Other antiseptics are often too volatile, as, for example, thymol, which comes off very rapidly from the boiling water, as does also benzonic acid, so that they are not convenient for inhaling.—*Medical Record.*

STEALING MEDICAL ADVICE.—It is very well known that although medical advice is made much sport of by certain of the laity, it is a practice among some to get such advice surreptitiously at an ordinary social interview whenever they can. The most innocent conversation sometimes conceals an insidious demand, or ends in a direct request for a medical opinion. One day a physician met in the street a gentleman who was accustomed to annoy him in this way. The doctor was stopped and a number of physical troubles were rehearsed. "Great heavens!" said our Æsculapius in affected alarm, "is that the case? Let me see your tongue." The would-be patient looked around suspiciously, then opened his mouth with some reluctance. "I tell you," said the doctor, with apparent irritation, "put out your tongue. How can I make a diagnosis if I only see the tip? There, hold still! Further! Now close your eyes." The patient, conquered, shut his eyes tightly and thrust out his tongue to the utmost. The doctor stepped around the corner quick as a flash, and was troubled no more for advice gratis.—*Medical Record.*

THE EASY PREPARATION OF CATGUT LIGATURES.— Whether one pins one's faith to the antiseptic system or not, the use of catgut ligatures is so important and so general that we call attention anew to the simple and easy method of preparation which Mr. Lister introduced and published last year. Any doctor can prepare them for himself within a couple of days, and keep them constantly on hand.

Add one part of chromic acid and 200 parts of carbolic acid to 4000 parts of water. To this mixture (as it undergoes change in a short time) add immediately 200 parts of catgut of suitable thickness. After soaking for forty-eight hours, dry the catgut and place it in a mixture of carbolic acid and sweet oil, a drachm and a half to the ounce (1 to 5), in which it may be kept indefinitely.—*Medical News.*

THE REGULATION OF DREAMING.—A French investigator, M. Delaunay, finds from experiments upon himself that the character of his dreaming may be controlled by stimulating various portions of the brain by means of heat. By covering his forehead with a layer of wadding he gets sane, intelligent dreams. He has also experimented on modes of lying, which favor the flow of blood to particular parts, increasing their nutrition and functional activity. He has observed that the dreams he has while lying on his back are sensorial, variegated, luxurious. Those experienced when on the right side are mobile, full of exaggeration, absurb, and refer to old matters, but those produced when on the left side are intelligent and reasonable, and relate to recent matters; in these dreams one often speaks.

These observations may be correct so far as Mr. Delaunay is concerned, but most people who venture to lie on their back, especially after eating, are apt to find their dreams anything but luxurious.—*Gaillard's Medical Journal.*

SANITARY COUNCIL OF THE MISSISSIPPPI VALLEY.—A special session of the council will be held during the meeting of American Public Health Association at Indianapolis, Ind., October 17-20, prox., at such time as may be found most convenient, with reference to the programme of the Association. Of this, due notice will be given by announcement, at an early hour after the Association has convened.

Questions of importance, affecting the sanitary interests of the Mississippi Valley, will be considered, and a full attendance of those concerned is earnestly desired.

By order of the Executive Committee:
GUSTAVUS DEVRON, M.D., *President.*
D. B. HILLIS, M. D., *Vice-President.*
JOHN H. RAUCH, M.D., *Secretary.*
Springfield, Ill., Sept. 24, 1882.

THE *North American Review* for October opens with an article on "The Coming Revolution in England", by H. M. Hyndman, the English radical leader, giving an instructive account of the agitation now going on among the English working classes for a reconstruction of the whole politico-social fabric of that country. O. B. Frothingham writes of "The Objectionable in Literature." Dr. Henry Schliemann tells the interesting story of one year's "Discoveries at Troy." Senator John I. Mitchell, of Pennsylvania, treats of the rise and progress of the rule of "Political Bosses." Prof. George L. Vose, of the Massachusetts Institute of Technology, contributes an article of exceptional value on "Safety in Railway Travel"; and Prof. Charles S. Sargent, of the Harvard College Arboretum, contributes an instructive essay on "The Protection of Forests." The Review is sold by booksellers and newsdealers generally.

FIRING ALLEGED TO BE HEARD 1,000 MILES.— For the first time in history the progress of a great naval engagement has been consecutively reported by the telegraph. A novel member of the fleet before Alexandria was a telegraph ship, through which, by means of the Mediterranean cable line, the War Office in London and the civilized world were kept informed of the movements of the war vessels and the results of the firing. The nearest cable station from Alexandria was at Malta, distant about 1,000 miles from the scene of the battle. A press dispatch says that when a telephone was attached to the Malta end of the cable the firing of the guns at Alexandria could be distinctly heard, though no oral communication was possible over that length of cable. It is not stated whether a telephone transmitter was used at the Alexandria end, or whether the general electrical disturbanee, caused by the explosion of the great guns, so affected the cable as to report the shots, through the telephone, at Malta.—*Gaillard's Medical Journal.*

Clinical Lectures.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

Reported by T. R. COFFMAN, M.D.

A GROUP OF TUMORS.—MALIGNANT TUMOR UPON THE THIGH.–HYDROCELE.–HYPERTROPHY AND ABSCESS OF LIVER.–A BENIGN TUMOR OF THE THIGH.–INFLAMMATORY TUMOR OF ABDOMINAL WALL.–HYPERPLASIA OF CONNECTIVE TISSUE OF HAND AND WRIST.

I present to you to-day a group of tumors, unlike in everything except the term employed to describe them. What is a tumor? Boyer defines a tumor as "any preternatural eminence developed on any part of the body." Dunglison says that this is the best definition of tumor, but if it embraced the interior, as well as the exterior, it would more nearly correspond to the nomenclature in use amongst physicians; it would then read, "any preternatural eminence developed *within* or on any part of the body."

Two of the tumors that you will see to-day present on the abdominal walls, the third is in the scrotum, the fourth occupies the upper and front part of the left thigh, the fifth is about the middle of the thigh, the sixth involves the wrist and hand. Three of them jeopardize life, the scrotal is a mere inconvenience, the one upon the wrist will end in permanent disability, that upon the right thigh requires time alone for its abolition.

We will now take them up in order, diagnose and treat them.

HYPERTROPHY OF LIVER WITH ABSCESS.

Mr. A.M., a laborer, has been complaining for several weeks of pain in the right side, about the region of the liver. He has a sallow complexion and is emaciated. About seven weeks ago, while out walking; he was seized with acute pain in the right hypochondriac region, has always enjoyed good health, nor has he ever been injured. The pain was so severe he had to stop work for a week. Soon after he had returned to his work a general soreness appeared over the region of the liver and stomach which has been present ever since. Ten days ago percussion showed dulness extending across from the right to the left hypochondriac region. All this area was sensitive to touch, and more especially was it so over the upper part of the epigastrium. At this point there has been a gradual bulging or enlargement and the acuteness of the pain has increased with the swelling. Now there is a large, fluctuating tumor, pitting under pressure, sensitive to the touch, with the skin tense and shining over it—evidently the pointing of an abscess of the liver. What are the causes of abscess of the liver? The substance of this organ is fragile and easily broken, hence blows and wounds are liable to result in abscess. Inflammation may produce it, abscess also occurs from transfer of thrombi to the liver from some diseased part of the body. It may result from excesses in eating and drinking especially the latter.

The prognosis is always grave, but in this case most favorable, as it is tending to point through the skin. The escape of pus from an abscess of the liver is usually attended with very great danger to the patient. When the discharge occurs spontaneously, either through the diaphagm by the lungs, into the stomach or intestinal canal, or through the skin—nature throws out bands of adhesion connecting the cavity of the abscess with the point of escape and prepares a way by which the pus may be liberated with safety to the patient. If it should break into the cavity of the peritoneum death will follow ninety-nine times out of a hundred.

Can the dangers of the evacuation be lessened? A safe outlet may be insured by nature's efforts, but when there are indications or fears that she may fail in establishing a secure drain, or that the patient is liable to die of exhaustion, before nature can succeed in making an opening, aspiration should be performed. The abscess may also be opened with a bistoury when the pus is near the skin, or there is a visible fluctuating tumor.

INFLAMMATORY TUMOR IN ABDOMINAL WALL.

This patient presents a tumor two inches below and to the right of umbilicus. For several weeks there has been irregular hardness at this point, for the last week it has been red, tender, and is now pointing. Matter is doubtless beneath the surface.

Is this a simple tumor in the abdominal walls breaking down by an inflammatory process or does it proceed from the cavity? It may be a foreign body making its way to the surface. Simple inflammatory tumors in the abdominal walls are rare, very rare. I make an incision very deep and pus escapes. The probe follows a track leading backward and upward, I can follow it about three inches. The future of this case is indefinite, time alone can develop its true character.

SCROTAL TUMOR.

There are a great variety of scrotal tumors, *sarcoma*, *hydrocele*. *hernia*, *varicocele*, *scirrhus infiltration*, *cystic degeneration*. The diagnosis is usually easily made. A hernia is traced from the inguinal region and pushes the testicle before it. Varicocele is made up of hardened knotty veins and seldom reaches the bottom of the sac. Malignant tumors are so irregular that they are easily recognized. Cystic degeneration manifests itself by irregularity of outline also, but there is an elasticity in the irregularities, whilst in the malignant the nodules are hard and bone-like.

There is, however, often trouble in deciding between a benign, solid testicle and a well, tensely filled sac, especially when the fluid, as it often is, colored by hæmatin; both are dense, heavy and painless. I am, of course, speaking of chronic enlargements; acute orchitis is so pronounced that you can hardly err. Often in these chronic cases you may be compelled to resort to aspiration, to the hollow needle, to determine the consistence. Hydrocele is by far the most frequent of scrotal tumors, it originates mostly from a trauma, and occasionally it is congenital.

The tumor before you is found in a man in middle life. It followed an injury. It is about the size of an orange, elongated not circular, it is elastic and fluctuates. When I place the flat end of the stethoscope upon it and look through the trumpet-shaped extremity, I discover a translucency. This settles the question. The tunica vaginalis is filled with serum. This plan is as satisfactory as placing the scrotum between a light and the observer. Two days ago I evacuated a cyst by the side of this one, withdrawing about six ounces of fluid, showing a double cavity, an unusual condition. Where the fluid is turbid, or composed, or colored by blood, the light is not transmitted.

Treatment—Evacuation. Then by means of the point of your needle, or the injection of an irritating fluid, you produce inflammation in the sac. You may accomplish the same by rubbing the sac upon itself. Again, you may produce absorption by the injection into the fluid of alcohol. Incision or the seaton are more radical.

MALIGNANT TUMOR UPON THE THIGH.

This young man, in jumping upon a steamboat, injured the left limb, sprained it, the apparent effect soon subsided. In July a small swelling occurred in Scarpa's triangle, it was not painful, but it continued to enlarge, no heat, no redness, no pain, but fluctuation was present. Dr. Birchett incised it, no pus, but a blood-colored fluid followed the knife. After a time it was aspirated but no fluid flowed through the hollow needle.

A short time before he entered the house it was again incised, a highly colored fluid again appeared. *Present condition* — Slight in statue, fair, sallow and emaciated. The tumor embraces the region of Scarpa's trianagle and reaches beyond it—the elevation at least two inches. The opening made by Dr. B—— has about closed, but there are, as you see, two or three other, irregular in form, but the skin is cut as if by a knife, so smooth and unbroken the line. A bloody water slightly mixed with pus is being discharged and on the floor of each opening there is a dark purple, spongy mass. The nurse says that small particles of bone were found in the discharge; this was when he first entered the house—none since: this I did not see and I can not tell you the extent of bone involvement because I have hesitated to use the probe amongst the great vessels involved in the swelling. A fatal hemorrhage is to be expected, and it is not well to facilitate it by a reckless use of the probe, and especially when no good could be accomplished. The swelling as you can see involves only the front aspect of the limb, but it reaches up to pouparts ligament. What is this disease? A malignant tumor—a giant celled sarcoma. This kind of growth always destroys—it has no reparative powers, no conservative disposition its tendency is to destruction first, of the part, second of the life.

What can be done for this man? Whenever practicable, ablation, separation of the part involved is the golden rule of surgery. If a member be involved amputate it as soon as the disease is unquestionably diagnosed; do not hesitate when by the knife you can reach healthy tissue. Here as in all operations for malignant disease if I cannot remove every trace of the disease I should not operate at all. An operation that is not radical will hasten rather than retard the morbid process. Is amputation practicable? I am sorry to say it is not. Removal of the limb at the hip-joint, the only one in question, would leave a large amount of diseased and infiltrated degenerating tissue in the flap. This then must be ruled out. What hope is there for this patient? Nothing, except what can be derived from the hope that I may be mistaken—that I have erred in the diagnosis—that this may yet prove to be benign, and undergo the reparative process peculiar to ordinary inflammatory deposits.

TUMOR ON LATERAL ASPECT OF THIGH.

The man was struck with a bar of iron, about the middle of the left femur. A swelling followed and has now assumed a definite form, being about four inches in length and two in elevation. This elevation is not clearly cut and defined, but it comes under the definition of a tumor. There is always some question about the composition of tumors following injuries; sometimes they consist of plasma, again of exuded blood, whilst in others there is found a white cheese—like pus. This tumor was painful, but it is not now. By its presence the action of the muscles are abridged; he walks with a limp.

Treatment.—Until fluctuation occurs compression yields the best results. Incisions are proper when fluid is present. In old cases a pyogenetic membrane is formed—prolifferating pus. This may be changed by irritating injections, or by scarification of the interior. When blood reappears after evacuation, the elastic bandage acts promptly and efficiently.

HYPERPLASIA OF CONNECTIVE TISSUE OF HAND AND WRIST.

You observe in this man an enlargement of the wrist, hand, and fingers—they are almost of double normal size. The pathological changes here are the same that we have in a tumor, the result of subacute inflammation, but the form of the exudation is different—it is a general hypertrophy of the connective tissue, without the definition, distributed over fingers, hand, and wrist, not confined to a single point.

The history of this case is somewhat peculiar. He, while polishing harness, thinks his hand was poisoned by an acid; inflammation resulted, erysipeloid in form. The action was high, but it did not, however, tend to a destructive form—to the formation of pus—but to plastic deposits in the connective tissue. You see him now with this elephantine hand, red, cold, painless, and useless.

Treatment.—How can we get rid of this hypertrophy; how can we return this hand to its normal size? Not by internal remedies. Absorbents here would yield no results whatever. We must invent some plan of pressure—some plan which will drive out all redundant fluid, and give support to the absorbents. Well adjusted elastic bandages will doubtless accomplish the work in the most satisfactory manner.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of September 18th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*
W. H. WENNING, M.D., *Secretary.*

Gun-Shot Wound of Brain.

Dr. Wm. Judkins, in reporting the following case, said that he regretted that he had not been able to attend the previous meeting of the Academy when Dr. Ravogli reported a similar case, making it the subject of an interesting essay on the localization of the functions of the brain.

On the fourth of July last the speaker was called to see a man who had received a gunshot injury in the forehead between the eyebrows, the size of ball entering the head being a 38 calibre. Supposing that the projectile had passed into the longitudinal fissure, a small probe was introduced to the distance of four inches, when, meeting no obstruction, it was again withdrawn. Recognizing that the man had but a short time to live, he was sent home where he died at the lapse of ten hours from the time of receipt of the injury, without having rallied, but remaining comatose till death. A post-mortem examination held the next day substantiated the fact that the ball had gone right through the longitudinal fissure for a distance of five inches, passing upwards and to the right, struck the vault of the cranium and was deflected downwards into the occipital protuberance near the cerebellum.

There was but little external hemorrhage.

DISCUSSION.

Dr. Thrasher remarked that he must object to the probing of the wound simply to gratify a morbid curiosity. It is true that if the man was dying, probing could do no further injury, but as a general rule the use of the probe in injuries of the brain is strongly condemned by most authorities. The danger lies in its setting up a hemorrhage by touching an injured vessel, which until then might have been obstructed. Even if the reporter of this case was sure that the ball had passed through the longitudinal fissure it is difficult to say where the projectile is lodged. Probing is only admissible when the bullet has not passed through the skull; but when the cavity of the brain has been entered such a course is not admissible.

Dr. Judkins replied that authorities differ as to the use of the probe. Dr. Hunter McGuire, for instance, a gentleman of recognized ability and high standing in the profession, does not hesitate to use the probe in gunshot injuries of the brain. It was not a morbid curiosity that induced him to use the probe in this case, but in the face of the desperate condition to give the man at least one chance out of a hundred.

Dr. Davy said that some years ago he had reported a similar case occurring in the practice of a surgeon in New York, but would now state that he was misinformed at that time. A child, sixteen to eighteen months of age, was shot in the head; the bullet passed through the brain and was lodged in the opposite side, just inside the skull, as was known from the probe passing in to the distance of *five inches* by its own weight, so that the point was reached where the bullet could be actually marked out on the external surface of the skull. The child progressed favorably, made a rapid recovery and was now supposed to be well. When the speaker, however, was East during this summer he learned that the child had lived but two months.

He would mention a case that came under his notice on the 4th of July last year, of which he took notes at the time, but not knowing that this subject was to be discussed this evening, he unfortunately could not produce them. A boy was shot in the forehead, over the right eye, the ball lodging on the opposite side of the brain. The wound was not probed but a button of bone, one-half inch in diameter, was taken out which somewhat relieved the compression. However, the child died in convulsions in two days. A post-mortem examination revealed the track of the ball which was found with great difficulty lodged in the brain just above the tentorium cerebelli. The brain was softened and there was considerable purulent discharge.

Dr. Ravogli remarked that the probe must be used with the extremest caution in injuries about the head. If the symptoms show that the brain has been entered the use of the probe must be forbidden, because trephining the skull for the purpose of removing the ball would endanger the patient more by the possibility of setting up hemorrhage than the presence of the bullet itself. Moreover, we cannot feel the bullet with the probe in so soft and pulpy a mass as the substance of the brain, and even if the ball could be found we cannot be certain that it is really in the place where we think it is situated.

To illustrate how great an injury of the brain may be compatible with life, he would mention an instance where a man had shot himself in the temporal bone on one side of the head with suicidal intent. The ball passed straight across the brain and was lodged in the temporal bone of the opposite side. No abscess resulted but the ball became encapsulated. The patient was thoroughly blind and lived for nine months when he died, not from the injury of the gunshot wound in the brain, but in consequence of cancer of the tongue, the sufferings from which had induced him to make an attempt to commit suicide.

The Sea-Side Sanitary Hotel of the Future.—Anxious guest to hall-boy: "Boy, where are the water-closets?" "Hain't got any, sir; they breeds fever. Boat goes down the harbor every morning. Ladies at nine, gentlemen at ten." "Well, is dinner ready?" "No, sir. We always carbolize the dining-room before meals. Now they are spraying the waiters, sir." Impatiently: "Well, where is your ice-water?" "Taint healthy. Yonder's our Labarraque mixture flavored to taste. Have a glass, sir?" Guest retires and takes a thymolized julep.

Selections.

MEDICINE.

THE TRANSMISSION OF DISEASE BY FOOD.—Read in the Section of Public Medicine of the Annual Meeting of the British Medical Association in Worcester, August, 1882, by Francis Vacher, F.R.C.S.Ed., and published in the *British Medical Journal.*

Food, no less than air and water, plays an important part in the production of disease. As medical officers of health, we are all familiar with cases of diarrhœa produced by food in a state of partial decomposition; and as practitioners, most of us are familiar with diseases, such as rickets, gout, and anæmia, which, although commonly regarded as the incidence of a bad habit of body and hereditary, are probably primarily due to some food-element being in excess or deficiency. Food may produce disease owing to its being diseased, as when ergotism follows a diet largely composed of ergoted rye or wheat. Production is, however, not transmission, and the diseases which there is sufficient ground for believing capable of being transmitted (sent on) by food are comparatively few. The question is, is it possible, with any approach to precision, to say what diseases are thus transmissible? I have already pointed out that food may spread disease owing to its being itself in a pathological condition, or to its serving as a culture-medium in which disease-germs rest. The diseases capable of being transmitted by food will thus naturally fall under two classes: 1. Diseases proper to animals; and 2. Human germ-diseases. It is obvious that, while the first class of diseases can be transmitted by meat and milk only, the second class may be transmitted by almost every conceivable form of food. And I think it is equally obvious that, while only certain of the diseases proper to animals are transmissible, all human germ-diseases may be thus conveyed.

Now, of the important epizootics affecting horned cattle, or sheep, or swine, in this country, there are four which are represented at the meat-market from time to time, clandestinely or openly. These four are rinderpest, pig-typhoid, pleuropneumonia, and foot-and-mouth disease. Though many medical officers of health have grave doubts as to the wholesomeness of flesh tainted with either of these diseases, and much of such flesh is consequently seized and destroyed, no inconsiderable quantity is sold and eaten, and has been for long periods of time. You will not require me to give proof of this. I have gone over them many times, and the evidence is familiar to most of you. You will remember, at least, the discussion there was lately in the papers when pleuropneumonic beef was openly sold in London with the sanction of the authorities. It is the simple truth that thousands of tons of such meat have been eaten; and with this result, that it has never been alleged that one single case of rinderpest or pleuropneumonia has been communicated to a consumer. As regards pig-typhoid, several cases of the supposed spread of this disease by specifically tainted meat have been recorded; but, when these records appeared, the epizootic was supposed to be the exact counterpart of human typhoid, and the disease believed to have been communicated was not pig-typhoid, but ordinary enteric fever. Foot-and-mouth disease alone, of these four epizootics, is their warrant for regarding as communicable to man, and this by milk rather than by meat. Indeed, I do not call to mind a case in which the appearance of the disease in a human subject has been traced to ingested meat, while many have been traced to milk. This cannot be owing to there being much scruple about using the flesh of affected animals as food; and the simple explanation seems to be that, while the flesh is usually well cooked, the milk is ingested raw. There is no reason to doubt that the specific contagium is contained in the vesicles which characterize the disease, and that this specific contagium, unless sterilized by heat or otherwise, is capable of conveying to man the disease of which it is the seed. In districts where it is the rule to pass carcasses affected with this disease, it is quite usual for the meat-inspector to retain the head and feet, and any parts marked with the eruption, as the udder and portions of the intestines. Then the whole of the skin is of course removed; and the surface of the carcass, to which some have thought there is a determination of the mature contagium, is the very part which either in boiling or roasting would be subjected to the highest temperature. Milk, on the contrary, is directly contaminated. Large vesicles form on the udder, and even on the teats, which it is scarcely possible to avoid rupturing in the process of milking, and the contents are discharged into the milk-pail. The mixture of milk and virus is imbibed raw, and within a few hours of its being drawn. If it were the custom to eat meat nearly raw, and usual to eat the head and feet of animals affected with this epizootic, doubtless there would be instances of the disease being communicated by meat as well as milk.

There is another animal disease which may certainly be transmitted by specifically infected food—*i. e.*, anthrax, or splenic fever. Here, however, the fluid in which the contagium lives being the blood, all the tissues must me regarded as infective, the muscles markedly so. One does not hear of infection by milk, because the secretion is commonly checked or entirely arrested, and the course of the disease is rapid and fatal. Still there is at least one well authenticated case of this disease being conveyed to a human being, who drank the milk of an affected cow. Cases of infection by means of meat taken as food are not frequent, because anthrax-flesh readily decomposes, and has so bad an appearance that it can only rarely be introduced into the market. That this disease is transmissible to man is unfortunately too certain, and even those who contend that it is only so by inoculation, will admit that food may come into contact with a wound in the mouth, and be the inoculating agent.

There is a third disease, of which I have long held that it may be spread to man by means of flesh of animals suffering from the disease; I refer to erysipelas. The matter hardly admits of proof. Erysipelas is less specific than other diseases of its order, occupying a sort of borderland between them and simple inflammation. It may arise spontaneously, or at least without the importation of any contagion *ab extra*. It is not less common in man than in animals. For these and other reasons, the possibility of the transmission of erysipelas to man from meat must remain doubtful. Still, erysipelas is far from rare among cattle and swine; and passing under such names as dermatitis, erythema, and "soldier," is often counted but a trifling ailment, and not prejudicing the carcass for purposes of food.

Whether tubercle may be communicated to man by the ingestion of meat or milk from tuberculous animals, is the next question to be considered, and it is exceedingly difficult to get at the truth in this matter. Like erysipelas, tubercle is as common in man as in animals; and I think I may say that, like it also, it occupies an intermediate place between specific diseases and inflammation, *i. e.*, it is even yet a matter of debate whether tubercle is the result or the cause of the inflammatory processes with which it is associated. Some of you may incline to think that all uncertainty on this topic disappears in the presence of Dr. Koch's remarkable discovery. I do not think so. Dr. Koch has found specific parasites in diseased lungs, spleens, and bronchial glands of human beings, and in the lungs of tuberculous cattle; but, as the *Lancet* has very justly remarked, "it is probable that the bacilli do not get into the system, even when inhaled, unless they can develop in stagnant or morbid secretions, or unless the loss of epithelium facilitates their ingress." Dr. Koch's discovery goes far to prove that bovine and human tuberculosis are essentially the same, and that the bacilli found are the exciting cause of tubercle. There must, however, be a predisposing cause essential to the production of the disease, a pretubercular condition; otherwise it is impossible to account for the heredity of phthisis, its low degree of infectiveness, and its selection of one or more out of many subjects equally exposed. There is certainly evidence of tubercle being communicated to children fed on uncooked milk from tuberculous cows; and the evidence is not perhaps not less abundant than that in support of the theory of the communicability of foot and mouth disease, but it is in some respects less satisfactory. In the one disease, signs of infection appear in a week or less after the ingestion of the infecting liquid, while, in the other, the disease is long latent, and the earliest signs of it are so obscure, that the cause is hard to determine—infection by milk being, in most instances, but one of many possible causes.

At least one fact seems fairly established, that milk from a tuberculous subject is infective. Calves and pigs fed on milk from tuberculous stock are almost certainly tainted. The present state of knowledge on the subject does not, I think, warrant one in asserting more than that tubercle may be transmitted by the ingestion of meat or milk from tuberculous stock, if the food be uncooked or insufficiently cooked, and the recipient be from any cause predisposed to phthisis. The whole subject of the communicability of bovine tuberculosis to man has acquired new interest since the issue of Dr. Creighton,s monograph on the disease in man. This author, it will be remembered, gives an account of the pathology of certain cases of a form of tuberculosis in man, which resembled in many points the bovine disease; and he contends that the resemblance is so close, that the disease he describes must have been derived from the bovine disease, the human subjects beings infected presumably by meat or milk ingested by them. The same author thinks it likely that some of the "many things called scrofulous are manifestations in the human body of the specific bovine virus," and that "bovine tuberculosis has sometimes appeared in man in the form of typhoid fever." These, however, are at best but speculative suggestions, and only interesting as such.

The next question is as to the conveyance of diphtheria from diphtheritic animals used as food. There is little doubt that the term "quinsy," as applied to animal diseases, includes several distinct conditions, and, among others, a disease bearing some resemblance to the human disease known as diphtheria. This being so, the conveyance of the disease appears exceedingly probable; and recently there has been testimony from more than one quarter of this disease being directly transmitted from animals. Then it must be conceded that a form of diphtheria may be communicated to the human subject by specifically infected meat or milk, if ingested raw or nearly raw.

There is yet another food-conveyed disease of animal origin—one not easy to classify. It is known rather as a meat-disease than an animal disease. I refer to the ham-disease which caused the so-called "poisoning" at Nottingham. The flesh of swine infested with a specific micro-organism is eaten, and, after an incubation-period of usually from twelve to thirty-six hours (during which there may be a little languor, nausea, or abdominal pain), there are griping, diarrhea, and vomiting, with fever; and these symptoms may be succeeded by fatal collapse, as in cholera. On *post mortem* examination of a victim of the disease, arterioles and capillaries are found plugged with masses of bacilli. Portions of the same flesh given to animals produced, in all but a few instances, positive and remarkable results. Here, then, is meat in a pathological condition, owing the presence in it of a certain parasite, appears to be capable of growth and reproduction when received into the human body. Whether the bacilli or sporules found in the meat were in the living animal, or imported from some extraneous source subsequent to slaughter, is not at present known.

The only other animal diseases which can be transmitted by ingested meat are those indicated by the presence of trichinæ and cysticerci. Meat infested with cysticerci does not, of course, usually communicate that disease, but another—tapeworm; yet I suppose there is little doubt that it may produce cysticerci, many instances of cysticerci in man being on record.

While many human disease-germs may find their most congenial culture ground or fluid in the various animal foods used by man, others thrive and multiply best on vegetable foods, Some such germs maintain themselves, and increase, without apparently prejudicing the foods from which they are nourished; some only in foods which are decomposing or fermenting. Again, those human disease-germs which are not matured or bred outside the body may, in the form of lasting spores, rest on foods, and be thus transmitted from subject to subject.

To sum up, then, I consider it reasonable to hold that foot-and-mouth disease and tuberculosis may be spread by milk; that erysipelas, trichinosis, and the pork-bacillus disease just referred to, may be spread by meat; and that all human germ-diseases (giving to the term the most extended meaning possible) may be transmitted by most foods. The number of diseases capable of transmission by food is therefore very considerable; still so many other things besides food serve as carriers of disease, that it is easy to overestimate the influence of food in this respect. Public conveyances, wearing apparel, articles of furniture, middens, and dust-bins, provide human disease-germs with as efficient resting places, hiding places, and feeding places. And in respect of the transmission of specific animal diseases to man by meat or milk from infected cattle, latterly there has been a tendency to speak of this as of frequent or usual occurrence—I do not know on what warrant.

The danger, however, such as it is, in its threefold aspect, is a real danger—one which it is not wise to ignore; and it behoves health officers to inqiure how it may be removed or diminished. The measures which I have to submit for your consideration, as best adapted to effect this, are as follows.

1. A more intelligent, scientific, and thorough system of inspection of meat than any at present obtaining.—In many places, the person charged with this important duty—inspecting meat—is a market beadle, an ex-policeman, a journeyman butcher, or the clerk at the public slaughter-house. In a district adjoining my own, the office is discharged by a hatter. When the importance of the work receives proper recognition, it will uniformly be intrusted to a surgeon, assisted by a veterinary surgeon, or one having some special veterinary training.

2. More efficient control over milk-producers and milk-sellers.—The powers possessed by local authorities under the Dairies and Milkshops' Order are not adequately enforced. Instead of appointing proper milk inspectors, policemen or nuisance-inspectors are required to add inspection of milk to their other duties; premises wholly unsuitable, and neither drained nor ventilated, are suffered to be used for dairy purposes; the storing and selling of milk is allowed in all sorts of general shops, where candles, vinegar, paraffin, and not very fresh fruit and vegetables are also stored and sold; and milk is left standing on shop-counters conveniently proximate to infectious customers. Then, considering how often the worst form of milk (that leading to typhoid fever) has been traced to the deliberate addition of water to the milk, I do not think that samples should from time to time be taken for analysis from all vendors in a district, and not merely from those against whom specific complaints have been lodged. In this matter, also, local authorities want a power of compulsory notification, enabling them to require all milk sellers to notify cases of infectious diseases appearing on their premises, with authority to close such premises till the removal of the infected animal or person, and the disinfection of the premises.

3. The thorough cooking of food, especially of all meat and milk.—It is very remarkable that, whereas the typical contagious liquid, vaccine lymph, survives the intense cold produced by solid carbolic acid and ether (i, e., a temperature of 166° Fahr. below the freezing point of water) it is killed by exposure to a temperature of 150 Fahr. Thus one has in that most simple expedient, increased temperature, a really perfect parasiticide, germicide, and contagicide. As regards cloths, etc., there may be other efficient means of disinfection. As regards food, when it is once tainted with spores, germs, or parasites, heat is the only way of rendering it innocuous. Apropos of this subject, I may remind you of some very odd experiments with trichinous pork, smoked in different ways, for long and short periods of time. Twenty-four hours' hot-smoking destroyed the vitality of the parasite, while seventy-two hours' cold smoking failed to do so. Boiling, I may remark, is, as a rule, a better and safer way of cooking suspected food than either baking or roasting In a joint baked or roasted, the centre may never have been raised to a temperature of 140 Fahr.

4. The complete destruction of infective and condemned carcases.—Under the 117th Section of the Public Health Act, 1875, a justice may, on the application of a medical officer of health or inspector of nuisances, order any diseased, unsound, or unwholesome carcase to be destroyed, or disposed of so as to prevent it from being exposed for sale, or used for food of man; and under the 32nd Section of the Contagious Diseases (Animals) Act, 1878, the Privy Council may make orders for prescribing and regulating the destruction, burial, or disposal, or treatment of carcases of animals slaughtered by order of the Privy Council or of a local authority, "or dying while diseased or suspected" (xvi), and "for prohibiting or regulating the digging up of carcases buried" (viii.) Now there is no disputing the sufficiency of these powers, and yet they certainly have not secured the destruction of diseased carcases. When meat is seized under the Public Health Act, the owner is commonly allowed to "cut the fat off," and the rest is decently interred. Again, when diseased animals are slaughtered under the provision of the Contagious Diseases (Animals) Act, implicit trust is placed in burial and quicklime. This is certainly not an efficient way of stamping out contagious disease in animals, or preventing its transmission to man. Fat cut off may reappear as butterine, and, a carcase buried "in its skin" in quicklime may be exhumed. Indeed, I prosecuted in a case some years ago when a diseased carcase was disinterred for the purpose of being sold for food of man. There is but one efficient way of destroying diseased meat, and that is by cremation. This is most readily done at any contiguous gas-works, where the carcase can be cut up and packed into the retorts. The district I serve in on one occasion destroyed in this manner a single

seizure amounting to 59,286 pounds in a few days, without inconvenience to the gas-works.

5. The isolation of infected patients, especially during the period of convalescence. — I have more than once pointed out that certain foods (bread, milk, and groceries in particular) may become charged with specific contagia, owing to shopkeepers and their assistants and apprentices returning to their work at two early a period after attacks of small-pox, scarlatina, etc. This premature return to work may, in some instances, be due to business anxiety; but it is far more frequently due to poverty — the patient really having no other alternative. What is wanted is increased hospital accommodation for infectious cases, and the accommodation must be free. It is only in very few districts that the provision made for isolating the infectious is equal to the demand. In most places it is so limited, that the medical man in charge of the hospital must often have to make choice between two evils; discharging a convalescent, or refusing to receive an acute case. Then the system of charging maintenance at so much a day, naturally induces friends to withdraw patients as early as possible. Sufficient accommodation for the infectious sick, free to all, would be a great achievement. The economic instincts of sanitary boards have hitherto stood in the way of this; yet, were it tried, it is not unlikely it might prove an actual saving.

However, any number of infectious diseases hospitals will not supply all our needs in this respect. Convalescents become weary of their fellow-patients, weary of their surroundings, and and can not be induced to stay in an ordinary hospital as long as may be expedient. If, however, they could be drafted off into convalescents would be under no temptation to return to active work too soon, and infect, not alone food, but all things contiguous to them.

Dr. Drysdale (London) said that the most important part of Mr. Vacher's paper was that in which he referred to the possible communication of phthisis from the lower animals. He had been connected with a Consumption Hospital for fifteen years, but he had never seen one case of phthisis which he could regard as having been attributable to eating diseased food. He should have liked to hear Mr. Vacher express his opinion on this matter more fully; he had distinctly understood him to infer that phthisis was one of the diseases communicable from animals to man.

Dr. Haughton (Norwood) wished to make a remark upon one proposition by Mr. Vacher. There were cases of compulsory isolation in which free accommodation was provided for infectious diseases; but, in addition to those cases, there were a large number of persons who were above the pauper class who could hardly be interfered with by the compulsory regulations, and who would not be taken from their homes against their wills and put into a free hospital, but who would nevertheless be very willing and anxious to avail themselves of good and proper accommodation suitable for infectious cases. With regard to the transmission of disease by milk, he thought there could be no doubt that Dr. Creighton had fully proved his case. He had met with a very large amount of professional agreement on the point that anything which was taken into the stomach and digested was not therefore certain to be conveyed into the blood; yet it must be recollected that the living cells which existed in the milk were so analogous to those which existed in the circulation of human beings, that it was quite reasonable to believe that they might be conveyed with all the properties belonging to them. He thought it highly important that the greatest possible supervision should be exercised with respect to milk, and that no milk ought to be allowed to be sold which had been taken from animals at all out of health. He believed it had been asserted that about one-fifth of all the milk sold was more or less affected with tubercle or some analogous complaint. Nevertheless, if this were not true, the existence of a much smaller proportion would justify the exercise of the strictest investigation, not only in regard to meat but to milk.

Mr. Page (Redditch) said that one of the most important points of the paper, as touching already existing legislation, rendered it desirable that this Association should, if possible, take some official action in endeavoring to obtain the transference of the health-powers of the Dairy and Milkshop Act to the sanitary authorities. It was not sufficient to inspect and analyze suspected samples of milk and other food only, but that systematic inspection and analysis be required to be made, at least of milk obtained from all vendors, and that the health-powers of the Adulteration of Food and Dairy Acts be more efficiently carried out.

Dr. Smith (Guildford) spoke of the defective way in which the provisions of the Act were at present carried out, and how incompetent the police were for dealing with the matter.

Mr. Millican (Kineton) said that, in a microscopic slide which he put up from hay-infusion, he found heat had killed bacilli and bacteria. The slide was put up with Canada balsam, which, being a terebinthine product, might be generally classed under the term "antiseptic." Yet masses of micrococci which were present had disappeared after about three weeks, and the field was swarming with bacilli and bacteria, in spite of heat and antiseptics. The moral was, that conclusions as to antiseptic properties must not be applied universally, but confined to the organisms upon which the observations are formed. With regard to the burying of carcasses infected with splenic fever, etc., he recollected reading of a case where such carcasses were buried in a field. The herbage over the spot was specially luxurious, and all animals fed thereon took splenic fever. Might not the bacilli find their entrance into the fluids of the herbage, and would it not be worth while to examine for them microscopically?

Mr. Vacher, in reply, said that milk from tuberculous cows must be regarded as dangerous; but the transmission of the disease by milk was almost incapable of proof, the milk ingested by the person developing signs of phthisis being but one of many possible sources of the disease. The practical course was, to boil all milk to be used as food. A memorial, praying for further powers in dealing with milk producers and sellers, had lately been presented to the President of the Local Government Board by the Northwestern Association of Medical Officers of Health. However, it was an undoubted fact, that very few sanitary authorities availed themselves of the powers they already had in this respect. Burying in quicklime (the way of dealing with infectious carcasses enjoined by the Privy Council) was not a way of destroying the contagium, but merely of hiding it, and it might come to the surface again, as the *Bacillus anthrăcis* was known to have done after being buried.

DIPHTHERIA LARYNGEA. — Professor Œertel claims to have demonstrated that diphtheria is an infectious disease due to a vegetable growth, called the *micrococcus diphtheride*. This vegetable microbe is found located in the mouth and larynx; it excites inflammation in these two regions and the production of fibrinous exudation, from which after a variable period general infection of the organism results.

This mode of view is of the greatest importance from a therapeutic standpoint.

It is then but a question of treating a local affection. The local affection presents two indications: 1st. Destruction of the cause of the disease; 2d. Removal of the diseased products from the parts attacked.

According to the author, we are to-day in a better state to fulfill this double indication in diphtheria than in any other infectious disease.

1. Against the cause of the disease we possess in phenic acid a remedy which, if not a specific, is nevertheless extremely efficacious. To obtain the antiseptic and antiparasitic effects, it is necessary to use far more concentrated solutions than those heretofore used. Such is the conclusion arrived at by the author after an exclusive application of this agent in diphtheria for two years and a half. In twenty-seven very grave cases, three-fourths of which would certainly have terminated fatally submitted to any other treatment, an entirely favorable result was obtained; other physicians, induced by the author to try the method, have met with like success.

The author attributes his success entirely to the extremely strong solutions. In the gravest cases of diphtheria the author has not seen the patients rapidly improve except when the blood was so impregnated with phenic acid that the urine becomes an olive green color.

For local action on the mucous membrane a five per cent. solution is used by means of the vaporizer.

The inhalations are made by sittings of two to five minutes every two or three hours or oftener during the acute stage.

The glass tube that directs the jet is introduced almost directly into the mouth, and the inhalations made less frequently as the patient becomes better, to be continued till a cure is effected.

The urine and digestion are to be watched. If the former changes its color much or gastric troubles arise, the inhalations must be diminished in frequency. When the urine becomes an olive green the treatment must be suspended for twenty-four hours, and the acid replaced by other solutions: boracic acid, two to three per cent., or benzoate of soda, five per cent. At the end of this period, the urine having become normal, the treatment by phenic acid is to be renewed. In order to hasten the detachment of the false membranes he uses hot vapor four to eight times a day for from a quarter to an hour at a time.

According to the case, the patient inhales, the first hour a solution of phenic acid, from two to five minutes; the next hour, for ten or fifteen minutes, in the same manner another disinfectant or detersive liquid, by preference a weak solution of saliclyic or a solution of common salt or chlorate of potash, one to two parts to one hundred.

The heat here plays the chief role; the liquid and alkali serve to liquify and separate the morbid products. The effect of the hot vapor manifests itself in from twelve to fifteen hours.

When the redness and swelling have gone down, suppuration sets in and the false membranes become detached, the number inhalations are diminished towards the third or fourth day, and only three or four are made for some days.

This plan, according to the author, prevents a recrudescence of the disease and a new infection of the mucous membrane, attended with the formation of a new false membrane.

As regards other remedies that can be used in the form of inhalations in diphtheria, the author has found that thymol. eucalyptol in aqueous or alcoholic solution, salicylic acid, the benzoate of soda or permanganate of potash, the latter because it discolors the parts and makes it difficult to recognize them, are decidedly inferior to phenic acid. Lime water and lactic acid, though under certain circumstances dissolve the coagulated fibrin, do not possess antiseptic properties, and since, in an affair of the mouth and pharynx, narrowing is not to be feared, the use of these agents is not indicated.

He says of all methods of using these remedies inhalations by the vaporizer is the best, since the action of heat is added to that of the remedy. For gargles much weaker solutions must be used.

The second method consists in the use of leaves of jaborandi or the chlorhydrate of pilocarpine. The author prefers, on account of the disagreeable secondary effects of jaborandi, one to five centigramms of pilocarpine, according to the age, dissolved in water, once or twice at short intervals. Now and then he makes use of the hypodermic injections, when the morbid process has existed some days, of one to two milligrammes.

The condition of the heart must be looked to when chlorhydrate of morphine is used. It is contraindicated if there are signs of a cardiac disease.—*Annales des Maladies de l'Oeille*, etc., Sept., 1882, Tome viii., No. 4. W. W. S.

MITRAL STENOSIS IN THE GOUTY HEART.—In a recent communication to the *Lancet* Dr. J. Milner Fothergill says that in the gouty heart "there is a permanent high blood-pressure in the arteries, leading to hypertrophy of the left ventricle, with subsequent hardening of the arteries, —the cardio-vascular changes which constitute the first stage of granular kidney, so ably described by Dr. Mahomed in his recent thesis, 'Chronic Bright's Disease without Albuminuria.' The hypertrophied ventricle contracts with vigor, so overcoming the resistance offered by full arteries to the cardiac systole and forcing the blood into the aorta, which on its recoil closes the aortic valves with a loud sound indicative of forcible closure; and this forcible closure frequently sets up valvulitis, with subsequent mutilation of the aortic valves. This association of aortic disease with the gouty heart is now well recognized. But the powerful contraction of the hypertrophied left ventricle causes also forcible closure of the mitral valves; they have to sustain a strain equal to the force required to overcome the resistance of the full aorta, and this strain tells upon them in time, leading to a slow sclerosing endocarditis. Such valvulitis may give either stenosis or insufficiency of the mitral valve. When the free edges become puckered and contracted, then insufficiency and regurgitation follows; when the valve-curtains are soldered together by a slow inflammatory growth extending from the attachments of the valves, then stenosis with obstruction is the result. Now, whatever the form assumed by the valvulitis, the features of the gouty heart will remain to the end, even when all the phenomena of advanced mitral disease are developed and implanted thereon. The aspect is never that of simple primary mitral stenosis; nor does the interest centre round the murmur evoked by the morbid process, but attaches itself rather to the associated general condition of the vascular system.

"A certain amount of injury to, and deformity of, the valves has gone on before it is sufficient to produce a murmur. But there may be the rational symptoms of a mitral lesion before the ominous murmur is set up. It may be possible to 'suspect' a mitral valvulitis before the telltale murmur can be heard; there is, indeed, a premurmuric stage in all probability. It is no part of the design of the writer here to discuss this early stage, but to confine himself to the consideration of mitral stenosis—*i.e.*, of a stage so advanced that it carries with it a murmur indicative of the character of the injury done. What are the features of this form of mitral stenosis?

"The patient is elderly; has a more or less pronounced senile aspect. The complaint is that the power to undergo exertion is impaired. There is shortness of breath upon effort. There may be nothing more. The pulse may be feeble and rapid, but there is nothing else about it, nothing characteristic. But on auscultating the heart over a very limited area, at or near the right apex, a tiny 'whiff' can be caught. Only over a small spot; move the stethoscope ever so little and it is apt to be lost; certainly lost if the stethoscope be distinctly moved. Here the presence of a murmur is significant, and unmistakable enough; at least in the majority of cases. But there is also a strong heart very commonly, and a fairly full artery,—*i.e.*, there are the associations of a gouty heart along with the mitral stenosis. Usually the nature of the cause of the murmur is clear and patent, and not a matter for reasonable doubt, as in the case given above. Here is a distinct explanation of the failure of power complained of. Or there may be a more advanced condition attained before the case came under notice, and the patient is confined to bed with or without some positive patch of pulmonary congestion. But there are the significant murmurs, the rational features of mitral disease, linked with the cardiovascular changes of the gouty heart, or granular kidney, as the case may be. The diagnosis bears on the prognosis and the treatment, especially as to the administration of digitalis. Here there is not an old-standing limited injury to valves, as static and non-progressive, as the scar of a burn, limiting the patient's powers, but possessing no tendency to further advance. There is a contracting or sclerosing valvulitis afoot, which tends to steadily go on from bad to worse, because the mitral valve has to bear the strain put upon it by an hypertrophied left ventricle. It is a progressive form of valvulitis. Certainly: but, granting that, at what rate is it progressing? '*Quien sabe!* as the Spanish girl said when they asked her who was the father of her child' (Kingsley). One would like to know; but how can one get to know? Only, in the language of Oliver Wendell Holmes, by getting 'an arc big enough to determine the size of a circle,'—*i.e.*, getting a period of observation long enough to calculate the rate of progress. This may entail personal observation, or may be fairly made out by the history of the case. In one case a definite date can be made out, since which there has been such a falling-off in the patient as reveals pretty plainly the time when the lesion began to tell upon the organism. In another case there will be no data pointing to any special time when the health was obviously impaired. The patient is not very well, feels weak and unequal to exertion, and is scant of breath; and on examination of the chest the murmur of mitral stenosis is audible. Such a case presented itself to me in June, 1880.

"In some other cases the inactivity of the valvulitis seems about the same; but in others, again, the progress has been steadily, if not rapidly, downwards. In one case there are violent paroxysms of angina pectoris present.

"As to the treatment of these cases, the prevention of the production of uric acid by an appropriate dietary and the use of hepatic stimulants, its solution by antilithic alkalies, are measures about whose adoption there can be no question. To keep the blood-pressure in the arteries as low as possible means lessening the strain on the diseased mitral valves on each ventricular systole; and this is attained by reducing the amount of albuminoid waste in the blood, or dissolving it, and so letting it escape by the water emunctories. So far so good. But how about the administration of digitalis? To increase the vigor of the ventricular contractions means increase of the strain on the valves. Certainly; and therefore grave and valid doubts may honestly be entertained about the wisdom of giving digitalis and iron, in a routine manner, in all such cases of mitral valvulitis. When the heart is fairly vigorous, and there are none of the rational symptoms of mitral mischief present, then, probably, it is well to withhold the digitalis, and to be content with an appropriate dietary and regimen. But when there are evidences of cardiac failure, then in all probability, it is well to give the digitalis; albeit in doing so the ventricle does strike harder, and so tax more the mitral valves. Here the ventricle is striking feebly, and the advantage of improving the heart's vigor is not more than counterbalanced by further strain put on the sclerosing valves. In practice each case must be decided by its own indications; and the indications will vary at times in the same case. Nor is it possible to lay down any rules of thumb for the administration of digitalis. The practitioner must weigh carefully the indications for its adoption or the withholding of it in each case. It is not necessary or desirable to give it merely because there is a mitral murmur present; as Rosenstein puts it, 'Digitalis helps the heart to pump the blood out of the veins into the arteries,' and the fulness of the veins and the comparatively empty state of the arteries are the indications for its exhibition; no matter what the murmur, or whether there be a murmur or not. Probably when the rational symptoms of mitral mischief are present it will always relieve them. Whether at times such relief is antagonistic or prejudicial to the ultimate interests of the case, and therefore it is better to withhold digitalis, is a matter for the exercise of private judgment on the part of the medical adviser. This is certain, the indications for digitalis in such mitral stenosis (or insufficiency, too, for that matter) are not so unmistakable as is the case in mitral valvulitis in the young, where a distinct injury, be the same more or less, has been wrought; but where there is no tendency in the valves to further mutilation, the distorting process being over and done with, the said injury crippling the organism and leading to death from the disturbance so wrought in the circulation, here digitalis can scarcely do any harm; but the same cannot be said of the sclerosing valvulitis of the gouty heart.—*Philadelphia Medical Times.*

Recent Researches on Tubercle, and their Bearings on the Treatment of Consumption.

—By Robert Saundby, M.D., Edin., M.R.C.P., London, Assistant Physician to the General Hospital, Birmingham.

The history of tubercle, ever since its first description by Laennec, has been a history of controversies. The rival schools of Paris and Montpellier in Laennec's time fiercely debated the question whether its origin were inflammatory, as Broussais maintained, or a deposit, as Laennec held. In our time there has always been a very strong school following the teaching of Alison, Addison, and Niemeyer, which regards tubercle, at least so far as it constitutes the common lesion in pulmonary phthisis, as the consequence of inflammation, often strumous in character.

All attempts to establish a histological criterion to determine the specific nature of a supposed tubercular lesion, from Lebert's tubercle corpuscle to Schüppel's giant cell system, must be regarded as having failed.

Rindfleisch's view that tubercle is an infective process originating in caseous material, was supported by the experiments of Villemin, Klebs, Cohnheim, and others, who found that caseous matter introduced under the skin of rabbits and guinea-pigs produced tuberculosis; but this theory fails to explain those cases of spontaneous tuberculosis in man in which no cheesy focus can be found; and, moreover, the experiments just named were somewhat invalidated by the contradictory results obtained by other experimenters, and also by the fact that tuberculosis followed the introduction of many other substances besides caseous matter, even blotting-paper and gutta-percha! (Cohnheim, Frankel.)

But more recent experiments with tubercular matter itself have been more decisive. Tappeiner succeeded in producing tuberculosis in dogs—animals not liable to spontaneous tuberculosis—by making them inhale phthisical sputa distributed by a spray producer; while similar experiments with non-tubercular sputa and pus gave no result. These experiments were very numerous, and had the advantage of being performed in Virchow's laboratory, the autopsies of the dogs and the descriptions of the lesions being made by his assistants.

In addition, more precision has been introduced into the innoculation experiments by the plan of introducing the morbid material into the anterior chamber of the eye instead of under the skin; by this means tuberculosis of the iris is produced, and owing to its situation the evolution of the lesion can be watched from day to day. Such experiments have been made by Cohnheim, Baumgarten, and Solomonson, and their results strengthen the view that tubercle is a specific disease, capable of propagating itself by infection.

The infective nature of tuberculosis was insisted upon very strongly by Cohnheim in his pamphlet[1] published two years ago, which attracted very general attention. He insisted that this constituted the sole criterion of tubercle; that is to say, given a certain diseased animal tissue, its tubercular nature could be proved only by observing the consequences of introducing a portion of it into the body of another animal. Such a view of tubercle necessarily involved, with pathologists like Cohnheim and Klebs who are thorough-going germ-theorists, a belief in the existence of some specific organism.

Cohnheim himself has described what he called the *monas tuberculosum*, a micrococcus which, however, Deutschmann has shown to be incapable of giving rise to tubercle when freed from all admixture with caseous material.[2] Klebs and Schüller also described "micrococcus spheres" in tubercle, and Aufrecht found micrococci and short rod-shaped bodies in inoculated tubercles.

Eklund, a Swedish naval surgeon, described two years ago an organism which he regarded as the specific fungus of tubercle, and to which he gave the name of *micrococcus phthisis dryotemenos;* and we are now only just recovering from the furore created by the announcement almost simultaneously of the discovery of the tubercle bacillus by Koch[3] and Baumgarten.[4]

However much ground there may be to dispute Koch's claim to absolute priority of discovery, there can be no doubt that the splendid series of investigations which he has recorded place him in the front rank of workers in this particular department.

Koch has shown (1) that the examination of a very large number of cases of tubercle in man and animals, including bovine tuberculosis, reveals the constant presence of bacilli, slender rods, one-quarter to one-half as long as the diameter of a red blood-corpuscle; (2) that these bacilli behave in a characteristic matter with certain staining agents, *e. g.* retaining the color of methyl blue when this is discharged from the tissues in which they lie; (3) that these bacilli may be cultivated out of the body, on gelatine, and separated from all contamination by frequent transplantation and breeding for weeks and months, and are then capable of producing tubercle of the iris when introduced into the anterior chamber of the eyes of rabbits, or general tuberculosis when injected into the abdominal cavity or the blood stream of cats and dogs.

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[1] Die Tuberculosis vom Standpunkte der Infectionslehre. Leipzig, 1880.

[2] Centralblatt f. d. med. Wissenschaft, 1881, No. 18.

[3]. Berl. klin. Wochenschrift, April 11, 1882.

[4] Centralblatt f. d. med. Wissenschaft, April 15, 1882.

Following on this, Dr. Ehrlich, by a modification of Koch's method, succeeded in identifying the tubercle bacilli in phthisical sputa.

I am not disposed to regard the behavior of the bacilli with staining agents as *per se* satisfactory evidence of their indentity, but Koch's cultivation experiments and successful inoculation of the fungus after repeated transplantations require only independent confirmation to establish the existence of the tubercle bacillus as an incontrovertible fact, like that of the bacillus of spirillum fever, anthrax, etc.

It is, of course, still undetermined what value we must ascribe to these bacilli, whether for example we shall agree with Cohn in regarding the fungus as the direct agent in the production of the disease, or follow Nägeli and pasteur in believing that although transmitting the virus, yet that this was originally independent of them, or failing to accept either of these views, content ourselves with saying that we are not at present to determine the relations which exist between the organisms and the pathological conditions in which they are found.

Fokker's experiments on the anthrax bacillus show at least that there is need for further investigation of these relations. He points out that mice inoculated with anthrax bacilli often die without any bacilli being found in their blood or tissues, yet from them a long series of cases may be fatally inoculated, and after the virus has passed through the systems of many individuals the bacilii may again appear in the blood. An additional doubt is thrown upon the question by the well-known fact that the presence of the spirillum in the blood of relapsing fever is by no means constant, and this inconstancy has not yet been properly explained.

Having thus reviewed the past history of the discussions on tuberculosis, there is good reason to blush at the manner in which Koch's experiments were served up to form the subject of leading articles in the daily papers; that a new era in the treatment of consumption should have been so loudly proclaimed, and that even our medical papers should teem with articles on the antiseptic treatment of consumption conceived in the same spirit of optimism.

The "antiseptic treatment" of consumption is certainly no novelty, but has been extensively and carefully carried out for some years.

Our memories must be very short if we have forgotten already the stir made in Germany three years ago by the statement of Rokitansky concerning the cures effected by means of the inhalation of a spray of sodium benzoate; or that Dr. Guttmann showed that such treatment, carefully carried out in thirty-one persons, failed to lower temperature, lessen night sweats, affect the body weight, or relieve a single symptom in any one case.

Variously modified means of applying antiseptic agents to the diseased pulmonary tissues have been devised by Dr. W. Roberts, Dr. Coghill, Dr. G. H. Mackenzie and others, including myself. My own personal experience of the treatment has been very considerable, and while I am satisfied that is is a valuable and rational metho , for allaying cough, diminishing expectoration and indirectly promoting the healing of the inflamed and ulcerated pulmonary tissues, I have seen nothing to lead me to modify my own views or to desire to modify the views generally held as to the gravity of the prognosis of pulmonary cousumption. If analogy can be allowed to guide us at all in such a matter, the antiseptic treatment should precede the development of the signs of pulmonary phthisis, if we are to expect any advantage from it at all comparable to that which has made Mr. Lister's name famous in modern surgery.

As I have pointed out in a former paper, the experience of antiseptic surgery, so far from encouraging us to expect a like good result by the use of carbolic acid in consumption, should rather warn us to expect nothing. Surgeons have not found that carbolic acid is of any special service in the treatment of surgical tubercular diseases; cod-liver oil and sea air are still needed to promote the healing of wounds in strumous subjects; and finally, but by no means least in importauce, antiseptics are known to be of small value when the wounded surfaces have been for some time exposed to the air, especially when they are deep-seated, irregular, and practically out of reach.

It is possible that further investigations may discover some means by which the tubercle bacillus may be readily destroyed, and I would suggest the importance of special inquiries in this direction. It may be that such means could be applied to the lungs in some more efficient way than is possible with carbolic acid. But while these are impossibilities, the experience of the past warns us aganst indulging in too optimistic dreams of the therapeutic advantages to be derived from these discoveries. We do not possess a cure for relapsing fever or anthrax, nor has it been worth anyone's while to announce that Eklund's discovery of the *bacillus lepræ* is the foreshadowing of knowledge mightier still, which shall cleanse the leprous skin, heal the ulcered limbs, restore the blighted features, and make the flesh again like the flesh of a little child. Such a consequence, wonderful as it would be, would not be more strange or more illogical than those which have been put forward as the probable results of Koch's researches on the tubercle bacillus, but we have not a large number of wealthy lepers in England, or no doubt we should have heard of it.—*The Practitioner.*

BISMUTH IN DYSPEPSIA OF CHILDREN.—E. W. Dunbar, M.D. (Zürich), M.K.Q.P.I., contributes the following to the *Practitioner*:

Loss of appetite in children with pain after eating, nausea, and depression, if accompanied by a tongue either clean or slightly coated, but showing redness and enlargement of the papillæ fungiformes, is quickly relieved by administration of bismuth, either in the form of the subnitrate or of the solution of the oxide in ammonia and citric acid as discovered and prepared by Mr. Schacht. The dyspepsia, which is characterised by the described appearance of the tongue, is produced by indigestible food. If the tongue is coated the dyspepsia is recent, and it is chronic and of some duration if the tongue is clean; loss of appetite and consequent diminution in the amount of food taken having given opportunity for the tongue to clean.

The digestion of children being easily disturbed, this form of dyspepsia may very frequently be observed among them. It is often necessary to persist in the use of bismuth for several weeks before the papillæ fungiformes resume their normal appearance and a lasting cure is effected, although improvement shows itself quickly in the appetite and returning liveliness and cheerfulness of the little patient. The action of bowels is as a rule markedly improved and more regular, especially if the liquor bismuthi is used; exceptionally the bowels are rendered more constipated and it is necessary to give a mild aperient occasionally.

While testing the accuracy of the described indication for the use of bismuth I prescribed it, owing to the state of the tongue, in the case of a child who had an obdurate cough that had resisted all the usual remedies for subduing irritation of the larynx. The cough ceased with the improvement which quickly succeeded the dyspeptic symptoms. The dulness and languor produced by this form of dyspepsia in children may easily be mistaken, especially if the tongue is clean, for weakness and a condition requiring tonic treatment. The marked distaste for food and the characteristic tongue point to the true nature of the ailment.

The dose of liquid bismuth varies from two minims under one year to three, five, ten, fifteen, and twenty minims up to twelve years of age; the dose to be repeated twice to four times a day according to the severity of the symptoms. The remedy appears to be most effectual when taken after meals. The subnitrate may be given in doses of one-half grain up to two, three, and five grains.

Bismuth is quite ineffectual in the dyspepsia of children where the tongue is smooth, clean, and shows no enlargement or redness of the papillæ fungiformes.

SHOULD BABIES' MILK BE BOILED?—A correspondent, who has also contributed a letter upon this subject to the CINCINNATI LANCET AND CLINIC, sharply criticises our recommendation, given in a recent article, to boil the milk for children during the period when summer diarrhœa prevails, and expresses his unqualified preference for the plain article. As he apparently invites us to state our reasons, we will endeavor to do so, though not in a spirit of controversy, but simply because we are strongly convinced of the importance, if not the necessity, of the proceeding which we have recommended. In the first place, we cannot accept the statement that boiled milk is more difficult to digest than unboiled; on the contrary, as we have long been accustomed to rely upon it as the sole diet in in cases of chronic diarrhœa of adults, in typhoid fever and in convalescence from acute diseases, as well as for infants' food, experience has taught us that it is not true; we have failed to see it ever cause indigestion; on the contrary, as an article of food, have always found it bland and unirritating. Plain milk often forms large coagula in the stomach, and the masses are sometimes vomited and sometimes discharged from the bowels undigested; this is much less likely to occur with the scalded milk. In preparing the food of young infants, authorities generally agree that it should be raised to a little above the temperature of the body. We advise that it should be raised considerably higher, and afterwards reduced to the desired degree, for reasons shortly to be stated.

Milk is a very complex and uncertain fluid. It easily undergoes a change of reaction, from sweet to sour, owing to the presence of the lactic and acid ferment. It rapidly absorbs gases and odors, and, as has been repeatedly shown, it may thus act as a carrier of disease, by becoming tainted with the emanations of zymotic affections, like typhoid fever (Murchison) scarlatina (Bell), and diarrhœa (Wilson), etc. This danger is by no means slight; it is dwelt upon in many of our text-books upon children's diseases. Dr. Wilson, in his Handbook of Hygiene, speaks very pointedly with regard to it (page 53, third edition, Phil., 1877). He says: "There can be no doubt that much of the infantile diarrhœa which proves specially fatal during the summer and autumn months is due to milk which either becomes tainted in this way, or becomes tainted by being put into feeding bottles, which are seldom or never properly cleaned. Indeed there are so many unseen dangers in the use of milk, especially among careless and filthy people, that, to ensure safety, *it should always be boiled* during warm weather." (Italics our own.) Dr. Day, the author of the latest English systematic treatise on diseases of children, also recommends that the milk should be boiled. Meigs and Pepper speak in the highest terms of praise of a food for infants which requires the milk to be boiled; they find it to agree best with the children, who thrive upon it better than anything else they had employed. They say:[1] "In several cases it has agreed well with infants who could not, without vomiting, diarrhœa and colic, take plain milk and water." J. L. Smith also speaks favorably of Hawley's and Liebig's Food for Children, which requires the milk likewise to be boiled,[2] and observes that it agrees best with the digestion. It is not our desire to quote a long list of authorities in support of our statement that boiled milk is preferable to plain as an article of diet both for children and adults at the time of year when zymotic diseases prevail, but those interested in the subject will find some of them given in detail by Day and Wilson, in the places quoted, as well as in Parke's classical work on hygiene, and by many others that we need not mention.

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[1] Diseases of Children, Sixth Edition, Phila., 1877, p. 336.

[2] Diseases of Infancy and Children, 3d Edition, Phil., 1876, p. 57. Directions for preparing Hawley's Food.

When the experiments of Bollinger, of feeding milk from tuberculous cows to healthy calves and inducing tuberculosis, are borne in mind, we have an additional reason for submitting all milk to disinfection by heat, unless we know it to be from a healthy animal. Moreover, in the city, where the milk is from twelve to twenty-four hours old when delivered, and is well advanced towards acid fermentation, there is often nothing but Hudson's choice with regard to scalding it, if it desired to keep the milk from one day to the next: and many families habitually boil the milk during hot weather, simply as a means of domestic economy.—*The College and Clinical Record.*

DIET IN CHRONIC NEPHRITIS. — Prof. Lichtheim (*Correspond.-bl. für Schweiz. Aerte*, No. 7, 1882), in address to the Medico-Chirurgical Society of Berne, treats this subject with much fulness. The ordinary practice, he says, is to prescribe a diet more than usually rich in albumen with a view to replacing the loss from the kidneys. The patient's danger from loss of albumen is, however, much less than that arising from the imperfect filtration performed by the kidneys, and the consequent retention of nitrogenous waste-products in the blood. For a considerable time this tendency to retention may be counteracted by the increased blood-pressure and cardiac hypertrophy, which effects a sufficient elimination even from the defective kidneys. This being the case, it must needs be unwise to strain this attempted compensation unduly by giving nitrogenous foods in quantity; this merely implies increased production of nitrogenous waste and increased work on the eliminating organs. The result of such a regimen must be a further increase of blood-pressure and greater cardiac hypertrophy, until at last the heart ceases to respond and becomes dilated; in other words, a new difficulty to the embarassed circulation is raised. By giving food which contained little nitrogen the professor has found that the dyspnœa of confirmed nephritics rapidly disappeared. He is inclined to regard this dyspnœa not as uræmic, but as a simple consequence of insufficient contraction of the heart, analogous, therefore, to the dyspnœa of cardiac patients.—*The Practitioner.*

THE PHYSIOGNOMY OF PHTHISIS.—Mr. Francis Galton has recently, in conjunction with Dr. Mahomed, been engaged in applying his method of "composite portraiture" to the investigation of the amount of truth which may underlie the popular belief that a certain type of features indicates a tendency to certain diseases or classes of disease. As yet their attention has been limited to the determination of the reality of a consumptive type, and for this purpose they have photographed a large number of patients, whom they then proceeded to group on clinical data. Cases of advanced disease showed nothing particular beyond well-marked emaciation. Cases grouped according to the rapidity of the course of the disease gave negative results, nor had those in whom the hereditary tendency was strongest anything very definite in common. But on a further examination these last were found to fall into two main divisions, not, however, separated by any well-marked line of demarcation. In the first division the faces were broad, with coarse, blunt, and thickened features; while in the second the faces were thin, narrow, and ovoid, with thin, soft, and narrow features—the two types corresponding with what are commonly known as the strumous and tubercular physiognomies. Comparing, however, phthisical and non-phthisical patients, they found the same proportion of narrow, ovoid faces to exist in each. Thus far their conclusions are opposed to the belief that any single type of face prevails among "consumptive" persons generally, or that persons of any special type are more predisposed to phthisis, although the phthisical members of each class are generally of a more delicate type, with finer features, lighter lower jaws, and narrower faces. Yet the delicate features and ovoid face seem to betray an excessively developed nervous temperament, with a deficiency of bone and muscle and staying power, easily breaking down under insanitary conditions or mental strain which their robuster brethren would resist; and if, as many maintain, the so-called strumous diathesis be a modified syphilitic taint, it is not surprising that among such, the low inflammatory changes called struma should be frequently observed. The inquiry, or rather the method employed, is new, and is certainly very interesting.—*Med. Times and Gazette.*

DECREASE OF RED BLOOD-CORPUSCLES DURING THE ADMINISTRATION OF IODOFORM.—Dr. Ludwig von Hoffer bases the following conclusions on the results of a few experiments made by him on rabbits and syphilitic human subjects: In rabbits a decrease in the number of the red blood-corpuscles and in the weight of the animal was observed commensurate with the dose of the drug. When the iodoform was withheld the falling away ceased and began again when it was readministered. In the case of syphilitic subjects, iodoform administered subcutaneously (in suspension in oil) for a few weeks causes, at first, an increase of the red globules, the syphilitic *hypoglobulia* being overcome. In the cases experimented upon the other signs of syphilis also receded. After a time the continuous administration of iodoform causes, as in the case of the rabbits, a decrease of weight and a lessening of the number of red globules.—*Wiener Med. Wochenschrift,* July 15, 1882.

SURGERY.

THE CURE OF CANCER.—It is generally believed that cancer has increased in frequency in the United States. The most humble practitioner meets with it, and is called upon to advise the methods of treatment which gives greatest promise of success. But, how often are all methods found to be of no avail. It is doubtful if those who have studied the disease most carefully are better qualified to treat it with success than are the arrant knaves—cancer doctors — who prey upon the weak and infirm.

The impetus thus given to investigators of the subject, by the prizes offered by distinguished learned societies and wealthy governments, for the discovery of a cure for cancer, has certainly not improved the methods of treatment much beyond what they were in the dark ages. The cancer doctor, usually a man ignorant of the commonest principles of physiology, flourishes in almost every community, and grows rich on that which the knowledge of the doctor of medicine forbids his assuming.

For convenience of study and getting a chance to look certain facts squarely in the face, the treatment of cancer may be arranged in two classes: one class the treatment pursued by qualified medical men, and the other treatment in vogue with quacks. The first class may be sub-divided: *a*, representing those hair-splitting diagnosticians who first ascertained that a given case is cancer, and then advise its immediate and thorough removal with the knife; *b*, representing the wiser and less numerous practitioners—the Englishman, Jonathan Hutchinson for example —who remove immediately and with the knife every sore which has the least taint of suspicion of cancer in its history or character. These gentlemen believe the diagnosis of cancer at a time when treatment is likely to be of any use, is a question not fully determined; and knowing that the great majority of knife wounds heal promptly, a source of great annoyance to the patient and probably cancerous infection is thoroughly and forever removed.

Class second, the quacks may be subdivided: *a*, representing those human sharks who treat their patients by mail; who pretend to possess some secret remedy which will annihilate the cancer in the blood; and who have no desire to cure the disease, but make their pretentions with one solitary object—to swindle and deceive. The faith which they inspire is of so limited and short duration that the victim seldom or never experiences the slightest palliation of his sufferings; *b*, represents a class who in their blind, ignorant way, examine their cases and pronounce every lump, wart or sore that can be covered by a plaster, cancerous. They use escharotic pastes which destroy the suspected tissues, leaving frightful wounds to heal by granulation under the coaxing influence of sundry poultices.

Each of these latter sub-classes undoubtedly often perform cures, but when it comes to a question of which one is likely to do it with least suffering and greatest certainty, the intelligent practitioner cannot long hesitate in deciding. The clean cut, nicely co-aptated surfaces hold out the only possibility of union by first intention. But there are a large class of persons, the victims of suspected cancer, who hold themselves in absolute terror of the knife; who, if there was no other remedy in the hands of either quacks or doctors, would postpone surgical interference until the possibility of its being serviceable had passed. These people drift into the hands of quacks, and added to the number that have been dismissed incurable after the knife has failed, swell the number of cancer victims whose only solace is in quackery, to an incredible figure.

In view of the uncertainty of diagnosis, and of the assured fatality of the disease when recognized, would it not be sensible for the practitioner to resort more frequently to the use of escharotic pastes in judiciously selected cases, in order to reach a larger number of suspicious cases?

In sponge grafting we have a means of healing quickly the slowly granulating cavities which follow the removal of suspicious growths with pastes. Ulcer rodens returning in the wound after excision, has been healed by sponge grafting. In it we have a means of supporting the capillary loops of granulating tissue, of retarding the ulcerative process, and receiving a quick and constant supply of nutritious pabulum for repairing the breaches of continuity incident to the removal of malignant processes.—*Michigan Medical News.*

THE INFLUENCE OF NERVE-SECTION ON THE FORMATION OF CALLUS IN FRACTURES.—From an elaborate experimental investigation, Dr. W. Kusmin draws the following conclusion:

1. After section of nerves in cases of fracture, the formation of callus is much greater and firmer than where no such operation has been performed.
2. The lime impregnation of the callus, after nerve-section, proceeds more rapidly, and terminates in genuine bone formation.
3. The formation of bone in the callus first occurs by metaplasis.
4. In the latter stages the bone is formed in a manner analagous to endochrondal ossification; that is, neoplasis is associated with metaplasis.
5. The first signs of ossification in adjusted fractures commence under the periosteum and at the outer periphery of the old bone. In preparations in which the nerves have been divided, the process progresses much more rapidly in both localities.—*All. Wiener Med. Zeit.*

PECULIAR PARALYSIS OF THE BRACHIAL PLEXUS.—In 1874, Erb communicated to the Congress of Naturalists assembled at Heidelberg, the details of four cases in which a peculiar paralysis of the brachial plexus had occurred. The peculiarities consisted in the distribution of the paralysis, and the localization of the lesion. Muscles innervated by very different branches of the plexus were simultaneously affected. The muscles paralyzed were the deltoid, the biceps, the coraco-brachialis, and the supinator longus, which are ennervated by filaments from the circumflex, the musculo-cutaneous, and the musculo spiral. E. Remak, some time afterward submitted a precisely similar case to the Berlin Medical Society, and recently Hoedemaker has published several new observations. To these German examples are now added two French cases published by Lannois.

The paralysis has usually come on after exposure to cold, and corresponds closely in its etiologic relations to some kinds of facial paralysis. The localization of the paralysis is the point of difficulty. Erb found that there is a place in the brachial plexus near the scaleni where the motor filaments above referred to, unite. In subjects properly trained, the necessary dexterity having been acquired by practice, these filaments may be excited by a fine electrode at a point between the two heads of the scaleni, where the fifth and sixth nerves emerge, causing movements of the deltoid, biceps; coraco-brachialis, and supinators only. Remak, in his case, placed an electrode at the outer border of the tranverse process of the sixth cervical vertebra, on the healthy side, and caused, with a mild current, a contraction of the supinator longus, and with a stronger current, a simultaneous contraction of the deltoid, biceps, and coraco-brachialis in addition. An application of the same current strength on the paralyzed side, caused no movement. The electrial condition of the paralyzed muscles has been the same in all the cases—that is, the electro-contractility is lost.

In Lannois' cases, the most recent thus far reported, the same peculiar localization of the paralysis was observed, and the electro-contractility was also lost.

We may conclude, therefore, that this peculiar malady is a peripheral paralysis—a neuritis probably, of the fifth or sixth cervical nerves which unite with others to form the cervical plexus. The condition, in the cases of long standing, has not been modified by treatment, but the more recent examples have been less intractable and have improved under suitable galvanic treatment.—*Medical News.*

How to Clean Pens.—A writer in a German paper states that it is a custom in offices in that country to have a sliced potato on the desk in commercial houses. He does not state whether the esculent should be raw or not, but as it is not for the purpose of making kartoffel-salat, it is probably raw. It is used to clean steel pens, and generally acts as a pen-wiper. It removes all ink-crust, and gives a peculiarly smooth flow to the ink. He also states that the Hamburg clerks pass new pens two or three times through a gas flame, and then the ink will flow freely.—*Southern Medical Record.*

OBSTETRICS.

On the Etiology and Treatment of a Certain Form of Endometritis, Accompanied With Very Tenacious Leucorrhœa.—Read before the British Medical Association at Worcester, August, 1882, by C. H. F. Routh, M. D., M. R.C.P., and published in the *Medical Press and Circular.*

There is a variety of dysmenorrhœa which we occasionally meet with, and which is very difficult of cure. I allude to that form where in addition to the pains about the uterine organs, to be hereafter more fully defined, there is a thick muco-purulent discharge, so sticky, that it is often well nigh impossible to remove it.

The general symptoms of this affection resemble in many respects those I detailed in a paper read before the Obstetrical Society of London (*Transactions*, vol. xii, 136), on Fundal Endometritis, and vary according to the part of the uterus affected. To recapitulate a few particulars. First, the pain felt varies greatly; is is sometimes trifling, general uneasiness being the chief complaint, with the knowledge of the daily passage of more or less leucorrhœal discharge which becomes yellow on the linen. More frequently, however, there is a marked feeling of weight in the uterus with bearing down; and the symptoms are greatly aggravated at the menstrual period, when colicky uterine pains are superadded. These, beginning in the back, run downwards towards the region of the round ligaments, and outside one, generally the left, or both thighs, coming on in paroxysms more or less severe. It has been stated that in such cases there is no rise of temperature, even although the pain has been excruciating, leaving no trace when once the cause has been removed. This, I am satisfied is an error. If the temperature be taken in the axilla, it is true there is seldom any rise of temperature. If however, it be taken in the vagina, it will be found raised sometimes to 103°. This, however, is by no means an exceptional case. In most, if not all, women during menstruation the temperature rises in the vagina.

To what is this particular discharge due? First, I believe, in most cases, it is essentially the result of gonorrhœa proper or a gleet. At least, in questioning many women, they always referred its occurrence to marriage; and in not a few of these cases, when I have been able to examine the husband also, I have found gleet. Yet, even here, I have observed what appears to contradict this view. I have found gleet present in a husband, and no sticky discharge in the wife.

If we closely question the wife, however, in these cases, we often are enabled to learn that soon after marriage, indeed within the first week, some acute symptoms supervened; abdominal pain low down, over both ovaries, especially the left, and in the groin, with more or less feverish excitement. In one case, I believe, peritonitis was the immediate result, which proved rapidly fatal. In another case, the peritonitis was more limited, and recovery occurred. Now, in both these cases the wives were believed in the first instance to be healthy; but both husbands were affected with acute gonorrhœa. The opinions of Noeggeroth, and his belief that catarrh of the Fallopian tubes plays a part in the occurrence of perimetritis, and even peritonitis, have been widely made known. By most gynæcologists, they have been said to be extravagant. Attention has also been called lately to this etiology by Dr. Edis. I must say, for myself, that, while I cannot go quite to the length of Noeggerath's opinions, I am quite sure that the chronic form of tenacious uterine leucorrhœa with dysmenorrhœa, of which I am now speaking, is due to gonorrhœa in most cases. In a few more cases, it is due to intense vaginitis in the virgin, which acts precisely in the same way in producing tenacious uterine leucorrhœa; a vaginitis capable of producing a gonorrhœa in the male, or rather an urethritis, which cannot be distinguished from gonorrhœa.

Whatever be the cause, however, in nearly all the cases where the discharge existing is thus tenacious, I assert distinctly also that, so far as my experience goes, sterility is the constant result. The affection, is moreover, in many cases, perhaps the majority, exceedingly difficult of cure, and for this simple reason: it is not only the uterine cervical and superior cavity which is affected, but the tubes likewise. A temporary cure by local applications to the uterus may be effected in the cavity, and for a few days a practitioner may believe he has cured the patient. Perhaps, a fortnight later, he is mortified in finding his patient as bad as ever. There has been no cure of the catarrh of the Fallopian tube, and, through the continuity of surface, the uterine mucous membrane has been affected.

I believe one of the reasons why peritonitis is not more common in these cases is that the expulsive or downward action of the cilia of the tubes directs the unhealthy secretion into the peritoneum.

I think it will facilitate the description of the points I wish to bring especially before your notice if I speak of this disease under three varieties, although they are but stages of the same disease—namely, 1. Where it is confined to the cervix; 2. Where it extends to the superior cavity of the uterus; 3. Where it reachesthe Fallopian tubes and peritoneum.

1. Let us speak first of the cervical variety. On examining a woman affected with this form of tenacious leucorrhœa we generally find an accumulation of muco-pus around the cervix. This is generally removed with difficulty; but even then a more or less thick cord of the same secretion projects as a piece of string from the os, and cannot be detached. Even if a piece of thick wire of a sound, around which some medicated cotton has been wound, be introduced into the uterus, it cannot be so removed. More and more seems to have accumulated above, and the mucus is as tenacious as ever. It is rare, however, that in such cases the operation can be done without exciting pain just as you pass the internal os, and sometimes higher up. The severity of this pain varies. In more chronic cases it may be slight; in others, and in these generally the dysmenorrhœa is very troublesome also, it amounts to an agony, which lasts for hours afterwards. I may here state, however, as useful, not only in these cases, but in others where the passage of the sound is attended with pain, that the injection *per vaginam*, of water as hot as the patient can properly bear it, is the most effective way of checking or relieving it. The moment the internal os is passed, the exact pains which the patient is accustomed to have during a period are reproduced. The patient, indeed, will spontaneously exclaim, "Oh, you are bringing on all my poorly pains!" The point of starting the pain is, therefore, probably at the internal os. I have also noticed that in a large proportion of cases uterine version or flexion exists, especially anteversion; but there can be no doubt that the internal os, by reason of the pain, is the seat of spasm, which, for a time at least, precludes the passage of the cervical fluid into the superior uterine cavity. This spasm, as well as the version where it exists, is in a measure a preservative action, and often prevents the development of the second stage.

If we now look to the mechanism of the production of this affection, we may trace some of the concomitants which render it so permanent, especially with married women, or women having relations with men, and which makes it so obnoxious to treatment. These are mainly two:—1. Direct suction upwards of the diseased fluid by the uterus; 2. The natural pressure downwards, and partial opening of the os during copulation.

I have elsewhere shown that, by means of a very simple instrument, we may prove that there exists a power of suction upwards by the vagina and uterus during extirpation, which is entirely due to atmospheric pressure. Take an ordinary speculum; close the uterine end by a thin membrane, and the other end by a cork through which a glass tube bent at right angles passes, and which is of some length; if this speculum be filled with water, which is allowed to extend also up the tube, at each inspiration the patient makes the water will rise in the tube, while with each extirpation it will fall—*i. e.*, there is a fall of the water in the tube. The mechanism of this change is too obvious to require comment. In some women, owing possibly to some peculiar folds of the mucous membrane of the vagina, which acts in a valvular manner, air is being continually sucked up, and at last fills the vagina till it provokes an expulsive effort, and the air is forcibly propelled outwards, and sometimes with a noise similar to flatus expelled *per anum*. I believe it is an operation very analogous to this which takes place *in utero*, through some condition, also of a valvular character, in the external os which causes vaginal fluids to enter into the uterus during extirpation. It is, perhaps, for this very reason that, at the critical moment of the orgasm induced by sexual intercourse, repeated and sudden expirations occur, which facilitate the upward passage of the semen into the uterine cavity.

Dr. Matthews Duncan has referred this suction upwards of vaginal fluids *in utero* rather to a reverted action of the muscular fibres of the uterus; and in this manner he explains the occasional drawing upwards of intra-uterine pessaries and their enlarged discs at their distal end right up into the uterus, which often taxes disagreeably the practitioner's ingenuity to get them out again. I have also had some of these unpleasant accidents to meet. Nor is this confined to the uterus. In cases where an artificial anus has been made, I have seen large pieces of lint and cotton sucked up and disappear altogether, and never found again. Nay, more; when an anus was made in the groin, and an ivory tube with a large cap placed in it, this has also been sucked up and disappeared. In one case where this occurred, the patient is still living. Here, perhaps, there may be some reversed peristaltic action to account for it. Still it seems more rational to attribute, at least in the uterus, these effects rather to propulsion upwards by atmospheric pressure during expirations: first, because it necessitates the dilation of the external os, which would imply an uterine contraction, which, we should suppose, would expel the contained intra-uterine pessary; and, secondly, because the uterine cilia have also an action in the expulsion of contained fluids. The moment, however, we explain it by atmospheric pressure forcing fluids upwards during expiration, and some accidental valvular action of folds of the mucous membrane does take place, is often made sufficiently palpable; but conversely, when we try to introduce a sound, in some cases, we are prevented altogether by some fold of mucous membrane, and also by the result often noticed, and well instanced by Dr. Barnes, that, when the external os is cut a large quantity of mucus, previously retained, obtains at once a free exit.

There is another cause also operative in such cases; the fact that, during intercourse, the uterus is forced downwards to meet the male organ, and probably the os undergoes a sort of dilation at the same moment, both of which circumstances mechanically facilitate the passage of acrid fluid upwards in the uterus. The way in which gonorrhœal fluid may thus pass into the uterine organ is sufficiently obvious.

Be it, however, gonorrhœal or other acrid vaginal fluid, it is equally obvious how, once in the cervical cavity, it will act as an irritant. It is well known that the vaginal secretion is acid, sometimes intensely so, whereas the uterine secretion is alkaline and markedly so. When an excess of acid fluid is thus sucked up *in utero*, of itself it will produce irritation leading to inflammation of the mucous membrane; and secondly, the contents of the uterus, now being acid, will kill any spermatozoa which are present, and so sterility follows as a matter of certainty. In these cases, the dysmenorrhœa is mainly due to obstructions at the external os, and the pain is chiefly referred to the lowest parts of the pelvis.

It was the examination of many of these cases that led me to conclude that, in a large proportion, the fluid sucked up did not pass the internal os, but was by constriction there prevented from going beyond. I have been met by the statement that there are no special circular fibres here forcibly to close the opening. All we notice are merely a few fibres which here decussate. I do not in any measure question the anatomical fact. But I am certain it is not a pathological fact. Like muscle everywhere when frequently taxed, it becames hypertrophied, and then it acts distinctly as a sphincter. I have verified this over and over by the use and retention of caoutchouc intra-uterine pessaries, where at this point there has been left a very distinct circular impression. And more than this, such constrictions may under disease take place elsewhere within the uterine cavity, especially in certain forms of version or flexion, as these tubes prove. This is possibly sometimes the seat of ulceration, a state of things being here produced which is analogous to fissure of the rectum; as, when touched with the sound, not only is the pain intense, but blood follows its use.

Certain it is however, that constriction does occur at the internal os, and here we have the explanation of the intense pain sometimes experienced by women. As you pass the sound through the internal os, you at once provoke a spasm, which continues for a time and not unfrequently you find your sound comes out bloody, exactly as it does in some cases of stricture of the male urethra, so forciable has been the local resistance. It may be that there may also exist at such parts slight ulceration.

2. Sometimes there is not such a complete closure or resistance at the internal os, or the cervical cavity is so full and dilated with muco-pus, that the fluid, not being expelled dowawards, is forced up into the upper uterine cavity of the uterus, and we have the second variety of tenacious gonorrhœal leucorrhœa. Sooner or later this result follows, and gradually but completely the uterine cavity becomes filled with fluid. The symptoms now are altogether different. They are in a few words those of greater and higher local uneasiness; sometimes phenomena of spurious pregnancy, followed often by symptoms not unlike those of miscarriage; but I shall again refer to them. Exacerbation of pain recurs not only at the onset of menstruation, but at other times, when the contained fluid, whether catamenial during menstruation, or muco-pus during the internal, is forcibly expelled by a powerful uterine contraction which overcomes all before it, and relief follows. Fortunately, the disease does not always extend beyond. But sometimes it does, and then the case is one of very serious import, at best one of confirmed invalidism. This constitutes the third variety, where the Fallopian tubes become inflamed, and even perimetritis, may occur. In the worst cases we may have those results insisted upon by Noeggerath, when a few drops of the inflammatory secretion of the tube escape, possibly by a contraction of the tube giving rise to perimetritis, and sometimes rapid and fatal acute peritonitis. Fortunately, in this country at least, this unhappy complication is not common. It cannot be said, at least in Great Britain, if it can be elsewhere, that all our young married ladies are diseased by their husbands, so that young ladies are afraid to be married, because they know that all their acquaintances were made ill directly and never again recovered.

The dysmenorrhœa in these cases is very severe accompanied with general uterine pain, tenderness reaching high up, and very aggravated.

Let us now distinguish how far from symptoms we may diagnose these three different varieties. I have already spoken generally of the general symptoms. We have considerable assistance, as I have shown in my paper read before the Obstetrical Society (*Transactions*, vol. xii., p. 136) "On Fundal Endometritis," by the special localization of the pain which is influenced by the nerve-distribution, In the cervical variety, the pain is referred to the lower part of the sacrum, the lower part of the pelvis, where there will be heavy, dull pain, sometimes reaching as high as the groins, but not higher. The vagina also, especially at the upper part, feels sore, so that connection becomes sometimes very painful, or, if pressure be made with the finger on the cervix, it gives pain. Once become chronic, however, all these symptoms are greatly diminished in intensity. In the second variety we have pain extending higher up, more marked just above the pelvis and pubes, markedly in the groins, and extending down the thighs, generally the left. Occasionally it extends, as in ordinary cases of fundal endometritis, up to the waist, in the region of the semilunar ganglion, and over both ovaries, specially the left, In the third variety the symptoms are those of perimetritis or peritonitis, which need no special description, except that I may remark that I have noticed in several of those milder or more chronic forms where neither perimetritis nor peritonitis existed, that on pushing the finger higher up on either side of the uterus, or with the index finger placed there, making pressure from the abdomen, I produced intense pain and a sickening sensation even in those cases where there was no enlarged ovary, although in some I have noticed these organs also enlarged and very painful.

So much for the pain. But in the second variety it often occurred that sudden relief was obtained, at least for a time, by a forcible expulsion of the uterine contents by a sort of labor pain. In these cases also, except where the disease had lasted many years, and sensation, as if it had worn itself out, was diminished, intense dysmenorrhœa was present, and the pains extended higher in the abdomen according as cervix, fundus or tubes were affected. I should remark that the breasts not only swell and become uncomfortable in these cases, as is commonly observed during menstruation, but become exceedingly painful, constituting mastodynia, which even persists after the period, and occasionally gives rise to hypertrophy of the organ. In these cases the second variety is always present.

Treatment.—For a long time I was greatly puzzled with these cases. If I cured them for a time, they were sure to recur. It is so even now with a few cases, and especially with those which include the third variety. The principles of treatment indicated here are three-fold; first, local antiphlogistic measures and other general agents to relieve the local inflammation or congestion; second, free exit to all contained irritable fluids, and the prevention of the suction upwards of the same; third, local appliances to correct the diseased action of the mucous membranes, and to keep the cavities patent. It is my conviction that the cases are very few and far between, which will yield unless these three measures be combined; and even in ordinary cases of leucorrhœa of an uterine origin, where the tenacious mucus does not exist, the same treatment is most efficacious.

First, of the local antiphlogistic measures and other general agents to relieve the local congestion or inflammation, blood-letting by means of leeches applied to the cervix uteri is both safe and effective. It is, in fact, a *sine qua non*, the backbone of success, and much to be preferred, in my estimation, to the lancet. The uterus in these cases is more or less hardened. Fibrinous deposit has, in measure taken place in its parenchyma, and blood will not flow though the cervix be pricked heroically and extensively. The hysterotome, or cutting the os on both sides from within, if a knife were used at all, limiting the cut to the cervical cavity, was the best way of doing it. But leeches are to be preferred. The very suction of the leeches brings down the blood, favors the downward course; and, when they fall off, the oozing of blood continues. In a plethoric woman (six leeches at a time), the leeching may be repeated half dozen times at least. It is the best preservative against subsequent inflammatory complications. If there be also much abdominal pain, then leeches may also be applied on the abdomen; but here I think blisters, or iodine paint applied to the belly, and frequent saline purgatives with anodynes, and alterative doses of mercury, are the best adjunct.

The patient thus prepared, we are in a position to put in operation the second mode of treatment, viz,, to give a free exit to all contained irritable fluids, and to prevent the further upward suction of the same. This, after all, is one of the first principles of surgery. If matter be cooped up in any cavity we must let it out. If the external os be small, and its action valvular, as before explained, it must be cut through. Mere dilatation without a bougie or intra-uterine pessary, at best can only have a temporary effect. Nor have I ever seen the slightest danger occur from cutting the external os in a patient previously prepared by the measures before indicated. A pair of scissors, a bistoury, or Dr. Barnes' instrument is sufficient. Precisely as when we cut a fissure in the anus, the parts are at rest. No more suction can take place upwards, a free exit is given to all contents. We have, in fact, one abscess with a free external opening. The cervical cavity can now be locally treated by local agents, and its diseased action cured. A number of these are in daily use. A small stick of nitrate of silver may be advantageously left in the cavity, which will often correct and change the acrid secretion, and recovery may follow. Another agent is pure carbolic acid, placed on a piece of wire previously covered with cotton-wool, and afterwards dipped in crystals of iodoform. This last, is very successful, and, moreover, relieves pain. I have sometimes used iodine paint, as advised by Dr. Wynn Williams, made by mixing iodine, iodide of potassium, water, and spirit, in equal parts; but I have not found in my practice anything as a local agent so successful as iodoform and carbolic acid conjoined.

When, however, we have to treat the second variety of this disease, we tread upon more dangerous ground. It should be stated unequivocally that, if local remedial measures, such as the hysterotome and intra-uterine pessaries, be employed before full effective antiphlogistic regimen has been premised, inflammatory complications of serious character, and death by septicæmia, may follow. If this regimen, however, have been observed, it is comparatively safe to cut the internal os by the hysterotome, or dilate by a sea-tangle or sponge tent. The morbidly contracting decussator fibres of the os must be overcome. If we cut, it is wise to let the patient bleed awhile. If the bleeding seem too profuse, then it is wise to introduce a small piece of sea-tangle; but one important caution should be remembered. It should not be straight; it should have the exact curve of the uterus. To attempt to put a straight one in mars and injures the cut position, and is favorable to the development not only of severe pain, but of inflammation. For this purpose I invariably use sea-tangle of various curvatures; or if I use a sponge tent, I pass through it a piece of steel wire, which I then bend to the curve required. Sometimes, by pulling down the uterus a little way, the tangle or tent is more easily introduced. But the uterus should not be pulled down far or violently, for peritonitis may be the result. Be it tangle or tent which is used, another precaution is necessary. Surround either by little cotton-wool, and dip it in a solution of glycerine and iodine. This is an antiseptic agent which prevents subsequent poisoning.

Sometimes, however, notwithstanding every care, the pain produced is so great, that neither tent nor tangle can be borne. We must then proceed another way. If the pain and bleeding persist, inject into the vagina water as hot as the patient can bear. This almost invariably arrests them both. If the bleeding persist, then I plug the vagina only. An anodyne suppository helps the patient if used in addition. Within forty-eight hours, all plugs being removed, I then inserted into the uterus a small taper such as I show you; it is covered with cotton, shaped to the cavity, dipped then in carbolic acid, introduced and left *in utero* for about twelve hours. It is seldom that this process need be repeated. The uterine tenderness generally disappears, and a large sound can be introduced without pain. The case may be left then, and will often do well; but I prefer using an intra-uterine pessary, one of the various forms I now show you, and which are for the most part well known to the profession. I have kept in the caoutchouc ones I show you for a year; the combined Hodge's and intra-uterine pessaries which I described at Bath before the Association, for six or eight months. The mucous membrane then assumes a healthy character. The catamenia are copious and painless often from the very first, generally by the third subsequent catamenial period. The dysmenorrhœa and the tenacious uterine leucorrhœa alike disappear.

Lastly, as regards third variety; in the more acute forms, the antiphlogistic treatment should be fully and heroically carried out at the onset, if we be fortunate to see the case early. Local leeching to the cervix and over the abdomen, followed by blisters, are here indicated; but even general bleeding should not be feared if there be much pain. Calomel and opium in half-grain doses should be given every three hours; and five minims of tincture of aconite, two drachms of liquor ammoniæ acetatis, every four hours, till temperature and fever abate. This treatment may prove effective. More often, however, the disease assumes a chronic form.

I have noticed that, in cases where the early symptoms have been of this serious import, once the chronic symptoms have occurred, the treatment recommended for the second variety has altogether cured the disease; possibly by insuring a free exit of the contents, possibly because the intra-uterine pessary, if *in situ*, precluded the influence of atmospheric pressure of suction upwards; possibly because an uterine pessary always favors a copious flow of catamenia, and thus relieves all local congestion. And what is more agreeable to the sufferer, the matrimonial alliance, which had hitherto proved an occasion of sorrow by the disease produced, has passed into one of joy through the birth of a child.

TREATMENT OF VAGINITIS.—For the last two years M. Gouguenheim (*Jour. de Med. de Paris*) has treated acute blennorrhagic vaginitis at the Lourcine by a method which has given him most favorable results, and which is exceedingly simple. It consists in placing in the vagina, with the aid of a small speculum, bags of variable size made of coarse muslin, and nearly filled with a powder composed of a mixture of nine parts of tannic acid. The bag is left *in situ* from twelve to eighteen hours, and is then withdrawn, while the patient is in a bath, by means of a cord attached to it, as to an ordinary plug. After the withdrawal of the bag, the vagina is syringed out with warm water to facilitate the removal of the membrane that has formed. After a few repetitions of this mode of treatment, twice a week, discharge ceases. Dr. Gouguenhiem says he has borrowed the idea of these bags from the practice of Madame Lachapelle.—*Dublin Journal of Medical Science.*

OIL OF EUCALYPTUS IN MIDWIFERY PRACTICE.—Dr. Samuel Sloan, Obstetric Physician to the Glasgow Maternity, reccommends the use of the oil of eucalyptus in midwifery practice. He has found it to possess, as an antiseptic, the following advantages:

1. It is non-poisonous.
2. In the quantity and strength required it is unirritating.
3. It does not coagulate the lochia, which, by separating the lips of the vulva, can be seen to flow out in a liquid stream.
4. Its odor is with rare exceptions, a pleasant one.
5. It seems to act as a uterine stimulant, causing and assisting to maintain uterine contraction.

Formed into a pessary of a suitable shape and size it is easily applied to the neighborhood of the os, and retained there. To secure this, the pessary must be broad and short, must melt slowly but completely, and must contain a large percentage of the antiseptic oil. These requisites he has found the following formula to supply: Oil of eucalyptus, six drachms; white wax, four drachms; cocoa butter, four drachms; mix and divide into twelve pessaries. One of these must be applied night and morning immediately after the usual sponging, and, though the napkins are frequently changed, the odor will be quite perceptible on the one removed prior to the next sponging, twelve hours later. In cases of miscarriage, or when the lochia has diminished materially in quantity—say, six days after confinement—he has found the above strength produce irritation, and the following will then be found preferable: Oil of eucalyptus, for drachms; white wax, one hundred and sixty grains; cocoa butter, four drachms; divide this mixture into twelve pessaries and label them No. 2. These may also be used at first night and morning, and afterwards at night only. These pessaries are made by first melting together the wax and cocoa butter in a vessel resting in hot water; the oil of eucalyptus is then mixed with this, and the fluid poured into the ordinary two-drachm pessary mould, each cavity being somewhat more than half filled. He has never been able to satisfy himself that the eucalyptus was absorbed into the system to any material extent. This is probable, however, and in one case seemed to be proved. This was a case of severely ruptured perineum, which was sticthed and united throughout. The pessaries had been continued for sixteen days, when an erythematous rash appeared over the whole body, disappearing immediately on the cessation of the eucalyptic treatment. Though uncertain as to the fact of a material absorption of the oil into the system, he is persuaded that the oil does not remain at the os, but freely passes into the cavity of to uterus. For it is admitted that the uterus for several days after labor is naturally in an alternate state of contraction and relaxation, and while during contraction it will empty itself, during relaxtion again whatever is lying at the os, or upper part ot the vagina will be sucked into the vacuum produced. The eucalyptus will therefore find its way quite into the uterine cavity. When he said that, with rare exceptions, the odor is agreeable, he referred to a decomposition of the eucalyptus oil which sometimes takes place, given the napkin a semi-fetid odor. That this does not arise from a change in the lochia he has proved by simply omitting the next pessary when due; he then found that the lochia was absolutely sweet. —*Lancet.*

Transitory Blindness Following Childbirth.—The following case is related by Dr. Adolf Szili in the *Centralblatt für Pratische Augenheilkunde* for June, 1882: A lady, about thirty-five years of age, on the fourth day after delivery became suddenly blind. There had been no hemorrhage nor eclampsia; the urine contained no albumen. Full light had been let into the lying-in chamber for the first time that morning. No convenience was experienced during the period of illumination, but when the room was again darkened, the sight was suddenly lost. When examined a few hours later, there was no sensibility of the cornea; the pupils were moderately dilated and did not respond to light. The fundus was somewhat pale, but there was no especial pallor of the optic nerve nor contraction of the retinal vessels. The patient saw always through a bluish mist which did not change in varying degrees of light, nor was it broken by photopsia on pressure. Nothing else was complained of. The pulse was rather slow; temperature normal. The room was kept perfectly dark. No change occurred for forty-eight hours, when there was a temporary restoration of vision upon the lighting of a candle in a corner of the room, but as soon as it began to burn brightly the sight disappeared again. On the third day such trials were followed by a longer duration of vision. Not until the end of a week was a faint glimmer of light permitted to enter the chamber from one side, and this was gradually increased. At the end of a month the patient could read Jaeger 1 in a half-light, but only 7 or 6 in full light, and that with difficulty. A complete cure was obtained in six weeks. Two years have since passed without any recurrence of the trouble. Dr. Szili defines the condition as a hyperæsthesia of the retina, caused by the dazzling light, aided by the lowered tone of the patient consequent upon delivery.—*Medical Record.*

OPTHALMOLOGY—OTOLOGY.

Prophylaxis in Ophthalmia Neonatorum.

Kōnigstein, of Vienna, has contributed a lengthy article to the *Archiv f. Kndrhlknde*, iii., 9 and 10, 1882, upon the above subject. As attention has been drawn to the experimental researches of Credé in a previous number of this journal, and as K. has gone over the ground covered by Credé as well as by others, and has added new evidences, it may not be out of place to present a synopsis of the present state of the question to our readers. The author had placed at his disposal the immense material of the Viennese clinic for obstetrics, in all 3,400 cases. His plan of procedure was as follows: 1. To observe, say 1,000 cases, without applying any one of the methods used for prophylaxis; 2. All the mothers were to be examined for syphilis and leucorrhœa; 3. Inoculation experiments were to be made with the various secretions; and 4. All the various methods for prophylaxis to be tried upon an equal number of cases. 1092 cases were held under observation, without prophylaxis; of these 4.76 per cent. had blenorrhagia, 14.5 per cent. catarrh and 200 cases had hyperæmia of the conjunctiva. The second question could not be answered, but the author claims that a great many cases originate post partum, by infection. Using as prophylactic measure an application of a one or two per cent. solution of carbolic acid, directly the child is born, reduced the number of cases to 1.42 per cent. blenorrhœa and 6.23 per cent. catarrh. For this series of experiments 1541 infants were tested. The author then tested the last method of Credé, consisting in the application of a two per cent. solution of nitrate of silver. One drop of this solution is to be applied to the conjunctiva after the lids and face have been carefully washed with water; 1250 infants were experimented upon in this way and the result was 0.72 per cent. blenorrhœa and 4.72 per cent. catarrhs. It will be seen from this that the last method seems to be the best. The inoculation experiments resulted in proving that the eyes of neither rabbits nor dogs are susceptible to the virus of leucorrhœ, ophthalmia or gonorrhœa, so that experiments in this direction could not be made. F.F.

Atropine as a Cause of Glaucoma.—Communications from Mr. Snell and Mr. Streatfield, published in the *British Medical Journal* of July 15th and 29th, call attention to the influence of atropine as used in ophthalmic practice in producing glaucoma. It would thus appear that the employment of the "Liquor Atropiæ" and "Liquor atropiæ sulphatis," Ph. Br. (gr. iv. ad fl. ℥ i.) is capable of producing this disease in some cases. The experiments of Dr. S. Ringer show that mydriasis will follow the use of a solution so dilute that chemists would consider the atropine but a mere trace, and the editor recommends the dilution of the officinal solution with two or three hundred times its bulk of water.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, October 7th, 1882.

The Week.

OPENING—MIAMI MEDICAL COLLEGE.—The formal opening of the College took place last Monday evening, October 2nd, at eight o'clock, in the presence of a large and intelligent body of students of the College and interested strangers. The entire College building, including the Laboratories and Museum had been brilliantly illuminated for the occasion, thus enabling the visitors to inspect these departments at their own leisure. The Museum had been re-arranged, and the very valuable collection of the late Prof. W. H. Mussey, handsomely mounted and arranged in suitable cabinets, was one of its most interesting and instructive features. The exercises of the evening consisted in a welcoming address by Prof. Stanton, who was introduced by Prof. Williams, and in a display of microscopic specimens in the Physiological Laboratory by Prof. Eichberg. The able address of Dr. Stanton was very well received and attentively listened to; it was full of practical suggestions to the student in the matter of selecting his field of work and of the manner in which he was to go about it. It advised him not to endeavor early in his professional life to cultivate exclusively any one specialty, but rather to lay the foundation for a thorough general education, after which the specialty would take care of itself. The address adverted in very feeling terms to the late Prof. Mussey, whose recent loss is so generally deplored, and his character and example were held up to the student as well worthy of imitations; his rugged honesty and sincerity of thought as also his skill as a surgeon and his thoroughness in diagnosis were properly dwelt upon. At the close of the address the audience passed into the Physiological Laboratory where there were displayed under the numerous microscopes specimens of general interest, and some of more scientific character. The exercises were conducted very satisfactorily and the large class present at this, the first meeting, promises well for the winter's attendance. The prospects of the College have not been better in many a year than they are for the coming session.

CINCINNATI HOSPITAL.—Dr. Joseph Eichberg has been appointed pathologist, vice Dr. E. S. Walker appointed surgeon. Dr. Eichberg is abundantly able to do good and efficient work in his new position and will no doubt give our readers the benefit of his labors.

The new appointees on the staff of this large public charity should understand that in accepting the positions they now hold, places them under special obligations to the profession at large. Having special opportunities for study and observation, the benefits arising therefrom should not be hid under a bushel, but concentrated into a continuous glare of electric light, shining for the benefit of the whole medical profession.

THERE are more than ten fools to every wise man in this world. No where may this be more easily demonstrated than right here in Louisville. —*The Medical Herald.*

There may be more than ten fools to every wise man in Louisville, but in Indianapolis there are ten wise men to every fool.—*Indiana Medical Journal.*

Is this thus because of the recent migration of doctors from Louisville to Indianapolis and vice versa?

BEEF PEPTONOIDS.—We are in receipt of a sample of this new preparation recently offered to the medical profession. In appearance it is an elegant product of the pharmacy, and with the brand of Messrs. Reed & Carnick, the well known manufacturers of Maltine and Lactopeptine, we anticipate its soon becoming an indispensable addition to the physician's armamentarium.

NITRITE OF AMYL.—An item has been going the rounds of the medical press recommending this agent as a remedy to arrest chill in cases of ague. We tried it, almost killed the patient and did not stop the rigor. It is too powerful and dangerous a remedy to use for such a purpose.

THE ANNALS OF ANATOMY, edited by Drs. Pilcher and Fowler, of Brooklyn, N.Y., is one of our most valued monthly exchanges. Specially devoted to anatomy and surgery. Every number beautifully illustrated and printed on fine paper, with no trash in the text, makes it a welcome visitor.

DR. O. EVERTS, Superintendent of the Cincinnati Sanitarium, will read a paper before the Academy of Medicine, next Monday evening. Subject: "The Order of Disorder in Mental Disease."

THE SANITARIAN will be changed from a monthly to a weekly with the beginning of the next volume. This journal is doing a good work in the cause of sanitary science.

DR. W. H. FALLS will read a paper before the Cincinnati Medical Society next Tuesday evening on "Melanosis," reporting a case.

Miscellany.

THE LIABILITY OF CORPORATIONS FOR SUPPLYING IMPURE WATER.—At Leeds the case of "Milnes vs. the Corporation of Huddersfield," has been heard before Mr. Justice Mathew. This case was one of a most important character, and excited considerable interest. The plaintiff, a solicitor, practicing at Huddersfield, had suffered great injuries by drinking water that had been supplied by the corporation, which had produced lead-poisoning. The plaintiff's case was that the defendant had failed in their statutory duty to supply pure and wholesome water for domestic purposes. or that the defendants had failed to discharge the common law duty to supply water that was fit for consumption. Symptoms of lead poisoning set in about a year ago, and since that time the plaintiff has been in a most critical condition. At one time he lost his reason for several days, being attacked by a form of delirium consistent with lead-poisoning. He was affected by wrist dropping and other strong indications of lead-poisoning, and in consequence of his illness his practice was greatly reduced. The water which the plaintiff drank, after leaving the main, passed into the plaintiff's premises through leaden service pipes, which had been put down by the corporation at the expense and at the request of the plaintiff or his landlord. It was hardly disputed by the defendant that this water was unwholesome and had injured the plaintiff, and by the plaintiff that the water in the same natural condition as received from the springs, and was wholesome. The defendants contended that if the plaintiff was entitled to recover for a breach of a statutory obligation, his remedy was under the penalty class of the Waterworks Clauses Act, 1847, but if he was entitled to recover as for a breach of a common duty, it was not the case of an ordinary vendor warranting the fitness of goods for the purposes for which they are sold, as the corporation were compulsory vendors of the water they were bound by their Acts of Parliament to supply. They further urged that if the Public Health Act were relied upon, no such notice had been given as was required by that statute. But the main question was whether it was the duty of the corporation to supply water to the plaintiff that would be wholesome after passing through the leaden service pipes, or whether their obligation was discharged by supply water that was wholesome at the time when it left the main. The only matter for the jury was to assess the amount of compensation that the plaintiff would be entitled to in case it should ultimately be decided that the plaintiff was entitled to succeed. The jury awarded £2,000 damages. The case was then adjourned in order that the questions of law might be argued before the judge in London. — *The Sanitary Record.*

NYSTAGMUS AND HEMERALOPIA OF MINERS.—At the meeting of the French Association for the Advancement of the Sciences, on August 24, 1882, M. Dransart read a paper on this subject, based on ninety-three observations. The following are his conclusions:

1. The nystagmus of miners depends upon a paresis of the elevator apparatus of the eyes, both muscles and nerves, produced by excessive fatigue. This paresis it independent of any central lesion and any abnormal refraction. General atony, anæmia, and bad light are secondarily important factors, but are not essential to the production of the nystagmus.
2. A condition of hemrealopia, intimately associated with the nystagmus, also exists in miners; it can, however, occur independently of the latter affection.
3. The nystagmus is a curable disease; it be should not considered as exempting from military service.—*Gas. Med. de Paris*, September 2, 1882.

DR. JEPHSON was a distinguished physician of Leamington fifty years ago. The doctor was noted for being brusque and unceremonious. A great London lady, a high and mighty leader of society, who was taken suddenly ill, sent for him. Jephson was so off hand with her Grace that she turned on him angrily and asked:

"Do you know to whom you speak?"

"Oh, yes," replied Dr. Jephson, quietly, "to an old woman with the stomach-ache."

Clinical Lectures.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

Reported by T. R. Coffman, M.D.

STRANGULATED HERNIA.—A FRACTURE FROM MUSCULAR CONTRACTION.—FRACTURE OF BOTH BONES OF FOREARM.—PLASTIC OPERATION FOR RESTORATION OF LOWER LIP.

STRANGULATED OMENTAL HERNIA—TEACHING AN IMPORTANT LESSON.

Fred. P., age 24. Has been wearing a truss for one year, having but one testicle in scrotum, he supposed that a lump by the root of penis was the undescended organ. By the side of this he had a reducible lump. This was regarded as a reducible hernia and a truss was fitted upon it. Two days before his admission this enlargement became irreducible. An effort was made by the instrument-maker, then by a physician who has had a fair experience in hernias, both failed and he was sent into this house. Upon first examination I had a suspicion that it was an omental protrusion. He was anæsthetised, but the mass could not be returned. There was no fever, no tenderness, no pain, his bowels had moved. Twelve hours after his admission a dissection showed the true character of the trouble. Part of it was an old irreducible omental hernia, part of it recent. The old was at the base of the penis and over it a truss had been worn. This was slightly adherent, the bands were easily broken up. Two incisions into the ring were necessary before the mass could be reduced.

He has had no untoward symptoms. He is now safe.

There are several interesting points in this case.

1. His bowels were moved after the strangulation. Under what circumstances may this occur? (*a*) The bowel may be evacuated below the point of strangulation. (*b*) In omental strangulation there need be no constipation. Hence, if you have an acute protrusion, do not be misled by the fact that the bowels have been evacuated. An error here may cost your patient's life.

2. Under a misunderstanding of this case by the instrument-maker, this patient had been wearing a truss over and upon an unreduced omentum. I cannot say irreducible, for we have no evidence that an attempt at reduction had even been made by a Physician. Truss-making is one thing and treating hernia is another. The mechanic should be confined to the first. A simple protrusion may become permanently incarcerated by irritation, by the maladjustment of an apparatus, by the pad making pressure upon it.

3. The prescence in the scrotum of but one testicle made it doubly important for an anatomist to have had charge of this case. The lump at the base and side of the penis had to be defined. This was essential to a correct diagnosis and a proper treatment.

PLASTIC OPERATION FOR RESTORATION OF LOWER LIP.

Albert F., of Indiana, age 19. When eight years old was salivated badly, from which almost the *whole of the lower lip* and tissues covering the chin sloughed. The resulting deformity interfered greatly with speech, he could not retain the saliva within his mouth, fluid constantly running down over the chin compelled the wearing of cloths to the part. To relieve the deformity and overcome the inconveniences brought about by such a condition, he submitted two years ago to a plastic operation which was partially successful, inasmuch as he was greatly improved by the abridgement, in the median line, of a gap over two inches in width. During the healing process, after the operation, there was established a fistulous opening or tract through which the saliva has escaped ever since.

Observe another defect in the operation, Gentlemen, the notch or rather depression in the lips where the flaps came together. What I will attempt to-day will be to remedy these two defects. In operations for hare-lip, or in making plastic operations where the lips are involved, it is always necessary to have at its completion a pouting, or bulging at the junction of the flaps, or subsequently, after the inflammation has subsided, which follows as a consequence upon such wounds, there will be a notching, a sinking in of the lip at this point greatly to the dissatisfaction of both patient and operator, hence the surgeon must be especially cautious in preparing the edges for union. Success in getting a satisfactory result depends upon the direction of the incision. Make a curved instead of a straight line, then you will have a slight protuberance in the lip instead of a slight notch.

The notch is avoided by making the surfaces, the incised parts, concave in outline (instead of having them perfectly straight), with the concavities facing each others; then, when the edges are brought into apposition, the line will be increased in length, producing thereby pouting at the point where it is so much desired. What has been said can be verified by the operation performed, no trace of a notch can be seen, the line is unbroken.

The first step in the operation is to divide the attachments formed between the lip and chin, then, as the incisions are made for removing the V-shaped section of the cicatricial tissue, left by the former operation, an assistant holds the lip firmly on either side between the thumb and finger; this prevents excessive bleeding; when everything is ready, the edges are brought closely together and held in place by means of sutures and rather strong pins. The pins should transfix the two flaps, from side to side. Careful adjustment should be made of the edges in the median line, then held in position by means of ligatures applied to the pins in a figure of eight (8) manner. The long pins hold the parts firmly but gently together, undue pressure is avoided, but few sutures are employed, the strangulation of an unnecessary stitch may interfere with healing, The dressing will be very simple, cleanliness is important, vaseline applied to the wound either alone or upon lint. The pins and sutures will be removed as union progresses, the stitch upon the summit of the wound, stretching from side to side, may be removed at the end of forty-eight hours, the pins in from five to seven days. The mouth, as you see it now, will be disfigured by a fullness of the upper lip, this will be finally overcome.

The skin brought from the sides of the face and from the neck to cover the chin and form the new lip is a beard-growing skin, and just as soon as he can grow a beard, it will hide all traces of the operation.

FRACTURE FROM MUSCULAR CONTRACTION.

Adam J. B., fifteen years old. Has a fracture of the right humerus about its middle, it was caused by muscular contraction in throwing a base-ball, while playing "catch" with another boy across the street. There was no shortening, no displacement of fragments. It was dressed with a plaster-of-paris casement, covering the shoulder well and extending down to the elbow. This is the second case of fracture of this bone from muscular contraction that I have ever seen. Both were produced by the same cause—muscular contraction in throwing a ball.

The fracture is three weeks old, repair has occurred with but little deposit, scarcely enough at this time to fix the point of injury. Shortening following this injury is rare and with a reasonable amount of care should not happen. Ligamentous union is liable to occur in fractures of the humerus, more liable than in any bone in the body. Why? The seat of fracture is so often disturbed by being made the pivotal point, the elbow is held still whilst the fragments move. A dressing such as we have, should and does prevent this, the damaged parts are kept immobile.

FRACTURE OF BOTH BONES OF FOREARM—BEST POSITION DURING TREATMENT.

This man comes before you with a broken arm. He is one of the victims of the panic that occurred, a few days ago, at St. Thomas' Church. He was in the gallery at the time and during the excitement lost his presence of mind, jumped from the window, and sustained a fracture of both bones of the right fore-arm, about the middle. When he entered the house, there was crepitus, preternatural mobility, marked deformity, pain, and swelling at the seat of injury. The Bavarian, the book back, dressing was applied at once.

The arm is placed as now seen, midway between pronation and supination. The dressing extends to the ends of the fingers, embracing and supporting the hand. Do not neglect this, an unsupported, a dangling hand, will exert a marked influence upon the fragments and hence upon the prognosis.

You will observe that I make this encasing fit the arm *exactly*, no effort is attempted to depress it over the interosseous space. An interosseous pad, a splint for the purpose of crowding the fragments away from each other is "a delusion," it may prove to be "a snare" if it is pressed with such force as to interfere with circulation.

How do you prevent mal-union? By an early resort to passive motion, to supination, to pronation. When you make this with one hand hold the fragments with the other.

The plaster should be worn from five to six weeks, at the end of three, massage may be applied with advantage to the muscles.

What is the best position for the arm? Mr. Lonsdale has advised supination, a constrained state during treatment, and M. Fleury says that in one case he was "unable to bring the fragments into apposition except by forced supination." This experience has, I think, been seldom duplicated. Nelation thinks supination will be necessary when the fracture is above the middle third. He does not however give a satisfactory anatomical reason for such practice.

This arm is dressed half way between pronation and supination. Is this the best position?

There are several points involved in this question. (1) What position gives the most comfort to the patient? (2) What position is most likely to prevent union between the fragments of the ulna and radius? (3.) In case of anchylosis what position gives the most useful arm?

(1) Midway between pronation and supination puts the muscles at comparative rest. In pronation the pronators are in action, the supinators are put into contraction in the opposite condition. Rest to muscles must give most comfort to the patient. Place your hand prone or supine, hold it there for a time, you will realize how tired, how weary the whole arm becomes. Continue this from four to six weeks—keep the muscles contracted for this time, how this weariness will be intensified.

(2) Does this position lead to a dangerous proximity of the fragments during the process of ossific deposit? This is an important question, most American surgeons by their practice answer it in the negative. Mr. Lonsdale has failed to convince them, although our great authority, Hamilton, almost yields to his suggestion to place the hand supine.

(3) Anchylosis, only in very extreme cases, is to be expected, it is almost criminal to entertain the possibility of it, except in cases where the bones are crushed into fragments, are very badly comminuted. In the presence of such an injury, involving usually the soft parts as well as the bones, the Surgeon is well satisfied to save the arm, sacrificing part of its functions. Place your arm supine, with the palm upwards, you will find that a rigid member thus fixed would be almost useless. So also a hand pronated and anchylosed would have its prehensile powers greatly abridged.

Anchylose it in the position in which this arm is placed and you will see that that makes a member of usefullness—of very great usefullness when compared to the former positions.

(4) When the member is supinated the muscles, thrown into permanent contraction may, by their attachment below the fracture effect the best position of the fragments.

Let me say Gentlemen, that whether your prognosis be good or ill, favorable or unfavorable, the comfort of the patient—the anatomical relations both of bones and muscles prove clearly that the position in which we have given this arm in the treatment is the best—and from which a favorable result may be expected.

Original Communications.

IS MEDICINE A SCIENCE?

An Address delivered at the Opening of the Seventh Session of the Medical College of Fort Wayne, Monday Evening, October 9th, 1882.

By H. V. Sweringen, M.D.

Ladies and Gentlemen, Gentlemen Students:

In behalf of my colleagues I heartily greet you at this the commencement of the seventh session of the Medical College of Fort Wayne. We welcome you to these halls, not of mirth and gayety, of idleness and pleasure, but of labor and learning, study and research: halls dedicated to thought, wisdom and truth; halls dedicated to one of the noblest professions in which it is possible for man to engage.

Those of you whom we may now count as our new friends, who are just commencing your career among us, no doubt experience not a little timidity, perplexity and apprehension at the vast array of studies to which you are now at once introduced as a preliminary to the practice of your profession. But do not get alarmed. Let high hopes incite you, a generous emulation fill you with a desire and a determination to excel; let your resolve be to surmount steadily the difficulties those studies involve, to encounter them manfully, one by one, and ere long you may already anticipate the moment of victory. You are about entering upon a complicated scheme of study, forming the curriculum through which you must pass, a complication depending upon the variety of knowledge which is absolutely necessary for the physician to possess. You remember that, in its most comprehensive sense, medicine is both a science and an art; a science, in that it endeavors to discover the permanent relations of facts, the disposition of certain events to be invariably or generally followed by certain other events; an art, in that it strives to avail itself of the knowledge thus attained to produce the results which experience has shown to follow particular groups of circumstances. Art generally precedes science; particularly has this been the case in our profession; but art would remain the merest empiricism did it not avail itself of all the light which science can throw upon its objects. In the dawn of our history as a profession, which has barely yet disappeared, an empirical practice was the only one possible, but as our medical knowledge evolves and increases, the field of study expands, but our methods of study become easier.

In the science of the profession you have chosen, the subjects of investigation consist more particularly in the influence which outward objects exercise upon the human organism, especially in regard to the disposition which these objects have to produce changes in living bodies which are concerned with the disturbance of their healthy functions, or with the restoration of those functions when deranged by disease. The art of the physician is appreciated by the success which attends his efforts in determining how best to avail himself of the knowledge thus obtained, in counteracting changes which he wishes to prevent, or in promoting those which he wishes to restore to their ordinary condition in health. But, there are, here and there, in the profession, a few dyspeptics who will tell you that medicine is no science at all; that it is by no means entitled to that distinction. They charge us with loading up our medical shotguns with various nauseous drugs and firing away at our patients upon the hit or miss principle. A prominent Boston physician a few years ago, in a public address, went so far as to say that "all drugs should be thrown into the sea; they might be bad for the fishes, but it would be a blessing for mankind"; a statement which is remarkable only for its insincerity and an unwarranted attempt at novelty and sensation. Since the untimely death of our lamented Garfield, not a few hysterical editors of the secular press have caught up this pitiful refrain and weirdly echoed it to the four winds.

It is not my purpose to enter into the history and treatment of the case of President Garfield; may it suffice to say that while I believe his wound was indirectly mortal from the first, and that to his surgeons and nurses is due the credit of his prolonged survival, his case was one peculiarly calculated to create in the minds of his professional attendants the most intense embarrassment, and one to which the homely but faithful saying, "too many cooks spoil the broth," is not wholly inappropriate.

But what do we understand by the term science? Is it not in its general sense a term given to the knowledge of facts? The group of facts pertaining to the sun, moon and stars, you call the science of astronomy and its approximate accuracy is unquestioned; the group of facts involved in calculation, you call the science of mathematics and its approximate accuracy is by no means denied. Now, if there are no *facts* in the study in which you are about to enter, the position which our dyspeptic brethren and hysterical editors of the secular press assume in relation to medicine, we must admit to be well taken.

If it be a fact, however, that opium will allay pain and inflammation, contract the pupil and promote sleep; if it be a fact that belladonna will dilate the pupil and counteract opium; if it be a fact that ergot contracts the uterus; that quinine interrupts malarial fever; that the hydrated peroxide of iron will antidote arsenic; that common salt will antidote nitrate of silver; that an alkali neutralizes an acid; that digitalis controls the heart; that sulphur cures the itch; that the surgeon's knife is wielded intelligently by reason of a correct knowledge of anatomical and pathological facts, if all these and many hundreds more which might be furnished from the various branches under the common head of the science of medicine, are *facts*, they constitute a group which we denominate medicine and which is as much entitled to a *scientific* title as any other group of facts.

Our editorial friends are excusable for their unfair comments upon our claims, because it cannot be assumed that they know whereof they speak or that they write understandingly upon this subject; but I have no sympathy or patience with the professional brother who is continually whining about the inexactness of medicine as a science. It is true that the facts of our science have not developed as rapidly as have those of other sciences. This is easily accounted for by the fact that speculation and experiment are the only means we have at our command by which we can develop them. Nor should we disregard the indulgence of our imaginations, for by its healthy exercise we are not unfrequently led to reality to be attained through no other agency. Speculation ever precedes and is the handmaid of science. The most illustrious philosophers have paid homage at the shrine of ideality, and have ever and anon been allured onward in the path of discovery. Who that has read of Jenner, of Harvey, of Rush, of Bacon, or of Archimedes can doubt this. The imagination is the great conceiver and bold discoverer of the mental faculties.

Our dyspeptic brethren and hysterical editors fail to make any distinction between the science of medicine and practice of medicine. The practice of medicine may be largely empirical or rely upon experience only; but the science of medicine must be founded upon some knowledge of the modus operandi of medicines. The facts of the science of medicine which have already been established and which are gradually accumulating are of themselves full of interest, and many of them of the highest practical importance. The speculative reasoning upon these facts may or may not be worthy of equal confidence, but very much of it will be found rational and satisfactory, and will continue to be held in high esteem until some better solution shall be given to the problems which medical records have left unexplained.

The lawyer, the doctor, and the preacher—or, according to another but very wicked transposition: the world, the flesh, and the devil—each alike fail to prove, to substantiate, to demonstrate many principles and statements of the truth of which they feel morally certain. The conflicting decisions of judges, the surprising verdicts of juries, and the many and diversified and diametrically opposing creeds of religion, ought to prevent the sciences of law and theology from throwing any stones at the science of medicine. Politics as a science is proverbially uncertain and inexact, but who will say that it embraces no facts or no principles; the only trouble is that the incubus of fraud and corruption keeps them so far from the surface that an earthquake application of the great law of evolution is occasionally necessary in order that they may materialize for a season.

The very moment that we become satified that any preconceived theory, however dear to us, is erroneous, we drop it like a hot potato; and this is the spirit and genius which from the time of Esculapius down to the present, has ever marked our compact, call it "Old School," New School," "Regular." "Allopath," or what you will. We are all aware that innumerable errors and almost inextricable confusion have resulted from a misapplication of the speculative understanding, but shall we therefore repress it. He who does so checks powers as original, as lawful, as useful as the senses themselves, powers on which social and scientific progress depend, and which, more than any other, ally men to the higher order of being.

In other sciences our knowledge rests more or less, upon an assured and exact basis. This certainly depends upon the facility with which we can trace effects to their true causes, can predict the effects of known causes, and consequently can calculate upon the absolute uniformity with which particular results may be obtained. This is a certainty which can be secured as long as we are dealing with limited portions of inanimate matter. We can determine with absolute accuracy the effects of a mechanical combination, and we can predict the results of a chemical experiment which we have already performed. The physician can imitate the chemist in the application of tests in the investigation of disease, and so he does; but it is necessarily as yet a very humble and distant imitation, and its approach to the certainty and definiteness of chemical analysis and synthesis is provokingly slow.

In the science of medicine there are sources of uncertainty which do not exist in physical science. One of the most important of these arises from the fact, that, in most cases, we cannot make experiments and vary them at pleasure. The Society for the Prevention of Cruelty to Animals, the sentiment of the public mind being strongly opposed to vivisection, we are for the most part obliged to content ourselves in every case of disease with observation of the phenomena; and how much lies hidden even from the most careful observation; but the constantly operating law of evolution is ever bringing to light the things that are hidden, a fact which all persons, particularly those not engaged in scientific investigation, are apt to loose sight of. The minute particles or atoms or microscopic cells which constitute the finger nail, are, like the heart, ever on the move; ever active in evolving, developing, producing and reproducing. The reformation was the result of evolution in theology; the late liberation of millions of slaves was the result of evolution in politics and law. Evolution is the grand force at work everywhere; like the law of gravitation it is in constant operation. It is at work in law; it is at work in religion; it is at work in medicine; and, if the frequency with which our children's text-books are changed be any criterion, it is in full activity in the public schools of Fort Wayne.

As physicians, we see complex results only, but cannot trace all the conditions necessary to produce them. Therefore, accurate inferences can be deduced only by slow degrees; consequently it is in many instances difficult to estimate the true value of the conclusions at which we have actually arrived.

The multiplicity of disturbing causes with which the physician has to deal constitute other sources of uncertainty. In no case is patience and caution in forming our opinions more necessary; and yet nowhere is an immediate practical decision more requisite than in the treatment of disease. The temptation to form a premature judgment is therefore very considerable; and experience shows how difficult it is to correct a habit of this kind when once acquired. From the very complexity of the phenomena upon which we are called to judge, it is for the most part extremely difficult to demonstrate that any given conclusion is inacurate, or that any principle laid down has no solid foundation.

But, because of these varied and humiliating difficulties, these apparently insurmountable obstacles of which we are all aware and which we keenly feel, must we listen to the monotonous song of our pessimistic brethren until it transforms us into drones in the hive of medicine? Do they prove that medicine is *not* a science? By no manner of means. A fact is no less a fact by being incapable of demonstration or not susceptible of proof. Medicine *is* science and an exact one, too; but these uncertainties and difficulties of which we have spoken, must necessarily attend its growth and development. Its progress has been slow, but progress has, nevertheless, been made. Who can successfully contradict this statement after comparing its present status with that which marked it even ten or fifteen years ago? I need not stop to note in detail the progress we have made in recent years. The microscope, the aspirator, the hypodermic syringe, the drainage tube, the Esmarch's bandage, the clinical thermometer, need only to be mentioned to be appreciated. I thank God that I entered the profession at a time when the barbarous practice of withholding, crystal water from the parched lips of the fever burning patient, was banished to the hell of ignorance and superstition from whence it sprang, and that for this unpardonable sin, I shall never be obliged to answer.

Suppose that in a fit of hysteria our skeptical editor suffers a luxation of the femur or of the humerus, to whom does he apply for aid? If there be no science in our calling, it is unnecessary to send for a physician. But does he not? I pause for a reply. Certainly he does, and with a minimum of suffering to his patient the physician soon restores the head of the bone to the socket from which it had been displaced, because of his knowledge of the exact position of the processes around the joint, the attachments and directions of the ligaments and muscles, and the course of the nerves and principal vessels. Suppose that he wounds a large artery and is in danger of perishing from hemorrhage: who will be able to cut down upon the course of the vessel, tie it, and arrest the fatal drain? His brethren of the press? Oh, no; they will do very well to aid him in the dissemination of views inimical to medicine as a science, but he is just now interested in the man familiar with the exact direction of the artery, and thoroughly acquainted with the tissues he will have to divide to reach it.

What we *know* of our science is as *exact* as that which is *known* of any other science. We do not claim that we know *enough* of it, or that as a whole, it is perfect. It is, like every other science, subject to the great law of evolution. We do not profess to be able to perform miracles. We cannot transform a fatal wound into a serious or benign one, or change an organic disease into a mere functional derangement; and only in a certain but very unpopular sense are we capable of raising the dead.

In preparing yourselves for the practice of medicine, gentlemen, your great object will be to fix your minds upon the principles of each branch of your studies. It will not be sufficient to content yourselves with mere attendance upon lectures. Admirable as these may be, they will only present an outline of the subject, which you must fill up by reading and reflection. You have come here to learn to *think* and not to be *crammed* with a heterogeneous mass of unintelligible melange. Your teachers cannot do your thinking for you. You cannot hope with a knowledge of the extent of the field of study before you, to postpone its commencement with safety, and, by a system of cramming for a few weeks before you present yourselves for final examination, to become qualified for the responsibilities of actual practice. Nor can you hope to follow more than six or eight of the learned professions at one and the same time, and be successful in either. The man who attempts to preach and practice medicine is not unlike the bantam hen that endeavored to hatch out a dozen goose eggs: her continued efforts to cover them all not only resulted in spoiling the whole nest, but in ruining herself. In this age of concentration his motives too, are apt to be impunged, or he will be charged with the hellish crime, if true, of using the pulpit for the purpose of introducing himself into medical practice among the brethren and sisters. I repeat, this is an age of concentration. The science of medicine comprises so vast a field that it is impossible for the mind's eye to take in the landscape in its entirety; a proposition which is fully demonstrated by the fact, that the disposition of the profession of the present day is to divide itself into specialties; to diminish if possible, rather than increase its work; to subtract from rather than to add to. Each of the departments of the profession has grown or expanded itself into a great branch of science, and any single section is sufficient of itself to occupy the whole life time of the student in working out and studying it in detail. It is, therefore, not possible for the human mind to embrace all of these departments in their whole extent or relations to each other; hence, the man who seeks to constitute himself priest and physician in *this* day and age of the world, is apt to be considered a crank.

Here is what Professor Roberts Bartholow, M. D., L.L.D., of the Jefferson Medical College, Philadelphia, has to say upon the subject:

"For the physician, diligence in business means the entire consecration of his time and intellect to the service of his profession. For him, attention to other affairs signifies neglect of the one supreme purpose. Is it politics that withdraws him from professional pursuits? No influence could be more baleful. The political doctor is never a great physician. Is it the church that absorbs his attention? Piety becomes the physician and enforces his devotion to duty, but when the doctor aspires to the work of the minister, and combines in his own person preacher and practitioner, he makes a sorry figure in both capacities. To have a pew in the most fashionable church, and to be called out betimes, is a traditional but well understood trick, no longer useful. The modern doctor is wiser. He attends the minister gratuitously, superintends the Sunday-school, and is ready with prayers for the sick, in the nature of exhortations to the healthy to avail themselves when ill of the services of so good a man."

We trust then, gentlemen, that none of you will be guilty of such dishonesty to yourselves, such injustice to your fellows, such culpable indifference to the welfare of those who may hereafter become your patients. If you will, you estimate wrongly your own duties and the true dignity and objects of the profession in whose ranks you propose to number yourselves. The honor of the profession is in part entrusted to your keeping, When you enter upon its practice, you will necessarily be introduced into the bosom of families, and will often become intimately acquainted with circumstances touching most nearly the honor and happiness of those to whose confidence you are admitted. You have come here then, to lay the foundation of such knowledge as will be useful in the practical, everyday duties of the physician. Facts, and not speculations, are what you most need in the commencement of your career. The time for your speculation upon these facts comes after you have left these halls, and after experience has taught you how to think and reason for yourselves.

The practice common among students of taking notes of lectures, is, in my opinion, more injurious than beneficial; unless you are thorough shorthand reporters, you will lose many items of interest while noting others of perhaps less importance. Since most of the details given in systematic courses of lectures will be found in the text-books upon the subject, it would be a mere waste of effort to do more than preserve the heads and main divisions of the discourse, and this can be done at the close as well as during the delivery of a lecture, provided you cultivate memory. The student who complains that his memory is so bad that he forgets what he has read as soon as he has closed his book, or what he has heard as soon as the lecture has been delivered, will, nevertheless, give you faithfully, the particulars of a game of base-ball in which he was himself personally interested, with all the minute details of every incident, showing no want of memory in this case, where his bodily and mental powers were called into full activity. This is at least true in the case of medical men: I would be glad to say as much in favor of the members of the press of this city, but it is utterly impossible: a game of base-ball was recently played here between the editors and the doctors, which resulted in the overwhelming defeat of the former, but their newspaper reports of it show conclusively that their memories have been so shamefully neglected that no amount of cultivation will ever cause them to sprout again. The next time we play them it will be incumbent upon us to purchase a newspaper whose object will be the advancement of truth among editors.

Gentlemen, in the dissecting-room, that hotbed of materialism, you will become familiar with death, and, in our hospitals, with disease and suffering in all its varied forms. It will, therefore, require care lest this familiarity should render you callous and indifferent. The manipulations to which the lifeless human form is necessarily subjected, are often ludicrous to behold, and are apt to lead you to forget the reverence due at all times to the mortal remains of a fellow being. To check this tendency, remember from time to time that the inanimate corpse before you was once endowed with life, tenanted by an immortal soul, and actuated by motives, passions, and feelings akin to those which you yourselves experience, fashioned alike by the same Creator, and destined like yourselves to stand, in the great day of resurrection, in the presence of Him who shall judge the quick and the dead. To the living, who, with disease, are suffering in our hospitals, there are few things more precious than sympathy, and often a kind word or a cheering expression from those who are prescribing for the relief of the body, will do more for the patient than the remedy which has been ordered, or the bandage which has been applied.

Finally, Gentlemen, it will be well for you to comprehend clearly, that what is known as the "Regular" "Old School" or "Allopathic" practice, is not confined within the narrow and contracted limits of any exclusive system or dogma. The title "allopath" which has so long been applied to us is a misnomer. Our treatment of disease is not distinguished by any predominance of of the allopathic principle. We do not as a rule, attempt to cure a disease by creating another. We do, occasionally, make use of this principle. A familiar example of it is the application of a blister for the relief of internal inflammation. In this case a new disease is produced upon a part which, without injury, is able to bear it, in order to cure the disease in the internal organ; and there is not in the whole field of medicine a fact better established than that disease is sometimes thus cured.

But, notwithstanding our firm adherence to principles which have stood the test of time, we know no *pathy*, *ic* or *ism*. We are lovers of the *truth*, no matter what havoc it may play with our preconceived theories. We have long ago thrown wide open every door and window of our grand old superstructure for the ingress of truth from whatever source it may come; whether from the natives in the Jungles of Africa, or from the Esquimaux amid the icebergs of Greenland; whether from Asia, China, or the Isles of the sea; from all points of the compass, from white and black, from Jew to Gentile, from bond and free, from every nation, tribe and tongue under heaven we welcome truth. Does the "old woman" in her domestic practice possess it? It is ours; we assimilate it. Does the hydropath evolve it. We absorb it. Does the electric discover it? We apply it. And if ever there shall come a time when an original and correct idea shall have struck the homeopathic school, we will appropriate it so quick that it will be difficult to determine where to place the credit of its priority. The whole realm of truth is ours; ours to dis cover, ours to apply, ours to enjoy, ours to preserve, ours to transmit. We are eclectics in the highest, truest, best sense of the term. Innovations are invited; invited to be tested; if they stand the test of reason, of common sense and experiment, they are adopted. We seek to arrange whatever is highest, truest, grandest in the medical profession.

We are *physicians*, but we belong to no sect or pathy; we ignore all artificial formulas of cure; our belief in remedies is not founded on extreme generalizations, and we will not submit to any other technical rules than those derived from a square view of *facts* ascertained by the ordinary principles of the positive science.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of September 25th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* A. G. DRURY, M.D., *Secretary pro tem.*

Pseudo-Hypertrophy.

DR. A. B. THRASHER reported the following case:

M.H., female, æt. 36, American, widow, seamstress. Father died of Bright's disease, mother died of phthisis. Both grandparents, on mother's side, died of paralysis. Several uncles and aunts died of phthisis. Three brothers died in infancy of unknown diseases. One brother died at eleven of "brain fever," one brother died of paralysis and dropsy at 40, a sister died of dropsy and hemorrhage (probably of lungs) at 35. Has two brothers living, one having had "white swelling in knee" when a boy, the other now suffering from asthma.

When five years of age patient fell and hurt her back, from which injury she shortly recovered. She was married at sixteen and has given birth to six children, all being stillborn. About eleven years ago had pharyngitis, iritis and alopecia. Five years ago had sudden paralysis of right side with complete aphasia. Recovered from the aphasia in four days and gradually regained the use of the upper and, more slowly, of the lower extremity. About eighteen months ago noticed that both legs were gradually increasing in size, which increase has continued till the present time. For about two months she has frequently suffered from pains in her lower extremities which is worse in the region of the knees.

She now presents the appearance of a woman fairly nourished, weight about 115 pounds, appetite fair, bowels constipated, urination normal, somewhat wakeful at night.

She drags the right leg in walking, must catch hold of some support to assist her in rising from a sitting posture; cannot raise both heels from floor at once and support the weight of body on toes. Dynamometer shows about one-half more strength in left than in right hand. The calf of right leg measures fifteen and three-quarters inches in circumference, the left, fourteen and one-fourth inches. The muscles of leg will not respond to the faradic current and but feebly to the interrupted galvanic. The increased size of the legs is not due to œdema. The low tension of the skin and the absence of pitting on pressure excludes that. Again, if œdema were the cause of the increased size, it would have been first noticed elsewhere—as in the feet and subcutaneous cellular tissue around the ankle-joint—it would have been increased in the evening and diminished in the morning, nor would it have caused a marked diminution of the electro-contractility of the muscles.

A hypertrophy of the muscles would account for the increased size, but this would probably cause an increased muscular power, whereas here exists a condition of paresis.

Here, I consider, we have to deal with that interesting condition, the pseudo-hypertrophic form of progressive muscular atrophy. Conditions similar to those manifested in this case have been long observed, but have been classified as pseudo-hypertrophy only within the latter half of the present century.

The etiology of this disease is obscure. There is a conflict of opinion as to whether it is of neuropathic or myopathic origin. Charcot, who advocates the former theory, refers the disease "to a chronic irritative atrophy of the ganglion cells of the anterior cornua, which are gradually, successively and progressively attacked." Friedreich, the great champion of the second theory, considers it primarily a myositis, an inflammation beginning in the perimysium internum and resulting in a subsequent affection of the anterior columns of the cord.

Duchenne has remarked that in many cases certain neuropathies have pre-existed or co-existed with the pseudo-hypertrophy, implying that the disease is more likely to occur in persons of a neurotic temperament. In the patient, whose history I have just read, there was the paralysis whose effects are still present in half of the body; and in this case there also exists a certain tendency to nervous diseases in other members of the family. In many cases the influence of heredity is well marked, this disease developing in several members of the same family. Pseudo-hypertrophic progressive muscular atrophy is more frequently developed in the male sex and in the period of childhood, but Friedreich has observed that it develops, as a rule, later in females than in males. In the case under consideration there is a family history of neurotic disorders, there are accounts of pre-existing and co-existing neuroses in the case itself, and there is a very clear history of constitutional syphilis.

Not all of the muscles attacked assume the hypertrophic form, some undergo atrophy and present a marked contrast to those muscles enlarged by the fatty deposit. The deposit of fat globules is preceded by an inflammation of the connective tissue of the perimysium internum and of the adventitia of the small vessels. The result is an increase of connective tissue elements, pressure on the muscular fibres with their consequent atrophy and a fatty degeneration of the intercellular tissue. Occasionally a muscular fibre is really hypertrophied to two or three times its proper size. Friedreich claims that the disease begins with "a chronic myositis accompanied by a secondary hyperplasia of the interstitial connective tissue."

There is an attenuation of the anterior cornua with atrophy of the ganglion cells. In the peripheral nerves there is an increase of interstitial connective tissue. Barth found many round gelatinous spots and numerous corpora amylacea in the anterior and lateral columns.

Generally symptoms of decreased functional activity have existed for some time before great increase in size of muscles is observed. Difficulty in locomotion may be one of the first symptoms. In this case that difficulty pre-existed from the old hemiplegia, yet there is a marked and progressive increase of the difficulty within the last year. From the diminished power of the lumbar muscles there is lordosis of the lumbar and compensatory kyphosis of the dorsal portion of the spine. Fibrillary twitchings are not so frequently found in pseudo-hypertrophy, on account of the subcutaneous deposit of fat. In this case it cannot be elicited. Pain in the knees is a tolerably frequent symptom. Charcot mentions the frequent affections of the joints in diseases of the cord.

The most prominent diagnostic symptom is the increased size of certain muscles with a decrease in strength. In the large majority of cases this pseudo-hypertrophy is confined to the muscles of the lower leg, although the muscles of any part of the body may be affected. Even the heart has been, by some, thought to be affected, however it is doubtful as to whether there was present any other condition than ordinary fatty degeneration of a hypertrophied heart.

The progress of the disease is slow and some doubtful cases are reported as arrested.

Remedies ordinarily addressed to the improvement of nutrition are here utterly without effect. But two things are of use—massage and electricity. The massage applied vigorously to the affected muscle may be used in conjunction with hot baths. The galvanic current should be applied to the diseased muscles and to the cord. Even this treatment is extremely unsatisfactory, the patient, as a rule, dying of some intercurrent disease.

The progress of the case under consideration I shall watch with much interest and, should an opportunity occur, shall carefully study the existing pathological changes.

DISCUSSION.

Dr. Zenner asked whether the calves of the legs had increased in size during the time that the case was under observation of the essayist.

Dr. Thrasher answered affirmatively.

Dr. Zenner then remarked that the disease termed pseudo-hypertrophic paralysis is merely the progressive muscular atrophy of childhood. The disease instead of beginning in the deltoid or the muscles of the thumb, as is usual in the adult, begins in the lower extremities and extends upwards. Instead of the mere muscular atrophy usual to the adults the degenerated muscular tissue is replaced by connective and fatty tissue, so that there is an increase in volume and the muscle appears to be hypertrophied. In both cases the changes in the muscles are due to disease of the ganglion cells of the anterior cornua—anterior poliomyelitis. To this clinical group the case just reported did not appear to belong. The disease began in the thirty-sixth year. It began in the lower extremities, not usual in the adult. It is not progressive. But there is pseudo-hypertrophy of the muscles of the calves. This is established by the very thorough examination of the essayist. How can this pseudo-hypertrophy be explained?

The history of the case is an anomalous one. Five years ago the patient had an attack of hemiplegia. This was probably due to thrombosis of a cerebral artery (there is a history of syphilis) and subsequent softening in the neighborhood of the corpus striatum. The hemiplegia has decreased, but some degree of paralysis has remained. But there is at present something more than hemiplegia. The nutrition of the muscles and their electrical reaction proves this. In central paralysis the nutrition of the muscles remains unaffected and the electrical reaction is that of normal muscles. But here we have found the muscular tissue degenerated and the reaction that described as the reaction of degeneration. In the latter the muscle does not contract on application of the faradic current, and contracts more readily than usual on application of the galvanic current. But when the muscular tissue is atrophied it no longer responds to the galvanic current. According to the examination of the essayist the affected muscles do not respond to the faradic current and only to a very strong galvanic current. The reaction of degeneration is obtained in disease of the muscles of the nerves supplying the muscles or of the ganglion cells in which the nerves have their origin. We know then that we have something more than hemiplegia in this case. But can the present changes be due to the original cerebral disease? A focal lesion in the brain, especially one involving the internal capsule, is often followed by degeneration of the pyramidal tracts in the cord. But here those changes usually cease. Charcot has reported a few cases in which the diseased process spread from the pyramidal tracts to the ganglion cells of the anterior cornua, producing a poliomyelitis anterior, with its symptom, muscular atrophy.

We may suppose like pathological processes to have ensued in the case under consideration, a cerebral lesion, secondary degeneration of the pyramidal tracts, which later induced a poliomyelitis. Then we must suppose the poliomyelitis produced, instead of the ordinary muscular atrophy of adults, a pseudo-hypertrophy, like that sometimes produced in childhood. That both legs are affected would be accounted for by the pathological process extending from the ganglion cells of one of the cornua to the other, as easily understood as that it should pass from the pyramidal tract to the ganglion cells.

A case of this kind has, so far as the speaker knew, never been reported; but such an explanation seems the most plausible one here. We might believe the disease to be peripheral, only in the muscles; but the affection of the same parts in both sides simultaneously seem to point to a central origin.

The essayist dwelt upon the fact of a family history of neurotic diseases. The history given will scarcely justify this. Two grandparents died of paralysis. Paralysis in the adult is usually due to cerebral hemorrhage, and disease of the bloodvessels cannot be classified under nervous diseases. The further statement of a child dying of meningitis will also add little weight to the above statement.

Dr. Thrasher, in conclusion, said he perfectly agreed with Dr. Zenner in considering this disease of nervous origin. He must beg to differ from him, however, as to the neurotic history of this patient. Three members of the family dying of paralysis and one of brain fever, in connection with the present paralysed condition of the patient, pointed directly, to his mind, to a hereditary tendency to a weakness of the nervous system.

Of course, he well knew that the disease is more frequent in the young, yet it is not by any means confined to them, as well authenticated cases are on record older than this case. He did not claim that this was a typical case; indeed, typical cases of any disease are rare, and from the small number of cases of this disease yet reported it is not probable that we yet know all the symptoms that may be manifest. That we have present a case of hypertrophy of the lower leg with muscular paresis, both of which conditions are progressive—this much we know; but whether it should be classified as a pseudo-hypertrophy of the muscles, he could not positively say without microscopic, or at least macroscopic, examination of the muscles. From the symptoms manifest he saw no reason to doubt that it was a genuine case of pseudo-hypertrophic progressive muscular atrophy.

Selections.

MEDICINE.

Anatomical and Experimental Investigations Made During the Years 1868–69, Relating to the Communication of Tubercle by Inoculation and the Pathological Nature of the Lesions Resulting Therefrom.—[The experimental and anatomical researches which are embodied in the following Reports on Tuberculosis Infection have lately acquired a new and special interest in consequence of the recent discoveries of Dr. Koch and of the renewed inquiries to which these are already giving rise in this country. Papers on medical subjects, which are issued in Blue Books, however important, become in general little known to the profession, for the existing arrangements for the distribution of scientific information paid for by the public are such as to place obstacles in the way of their coming into the hands of persons capable of understanding or using it. The two "reports" which we now reproduce are wholly inaccessible, having been out of print for years. The first of them, which contains the results of Dr. Sanderson's own experimental and pathological work, we reprint without alteration, omitting only the details of the experiments of previous investigation, which in the original are given in detail. The second "report," published a year later (1869), in the nature of an appendix to the first. From this, such parts have been extracted as appeared to the author to be of value for the illustration or completion of its predecessor. The general conclusions with which the paper ends are also derived from the second paper.]

The investigations to which the following report relates, were undertaken in co-operation with the Medical Officer of the Privy Council for the purpose of testing the truth of certain statements recently made on high scientific authority, as to the effects of inoculating animals with morbid products derived from persons affected with tubercular disease, and of determining to what extent, and under what condition, this or other allied diseases of man can be transmitted to the lower animals.

The problems which appear to me to be comprised within the scope of such an inquiry may be stated as follows:

1. Is it true that the inoculation of tuberculous matter produces in the lower animals morbid changes, so constant in their anatomical character and development that they may be regarded as constituting a disease? And if so, in what terms can it be defined?

2. In what respects do the morbid results produced by the inoculation of tubercle resemble or differ from other diseased conditions communicable by the same process, particularly pyæmia, glanders, and syphilis: and to what extent are they comparable with the effects produced by the introduction into the circulation of inert solid matter in a state of fine division?

Part I.—Inoculation of Tuberculous Matter.—For the determination of the first question, experiments have been made on 53 guinea-pigs. Of these, 30 were inoculated directly with diseased material from tuberculous patients, and 23 with material taken from the diseased organs, or with the blood, of animals previously inoculated. Of the latter, 13 were inoculated directly from animals of the first series, which in their turn yielded material for the inoculation of the remainder. Of these animals some are still under observation, but a sufficient number have died of the effects of inoculation, or have been killed for anatomical purposes, to enable me to report fully on the structural characters and development of the lesions produced. The quantity of material used in each inoculation was extremly small. The mode of insertion employed will be described below.

First Series.—Inoculation of Human Tubercle. Obs. I., April 16th.—Three guinea-pigs were inoculated with tuberculous material from the pia mater of a patient who had died three days before in the hospital for sick children, under the care of Dr. West. The patient, a boy aged four years and seven months, had been admitted six days before his death with symptoms of tubercular meningitis, the disease having already existed three weeks. His health had been good until two months previously, when he had an attack of scarlatina, from which, however, he recovered, and remained well until the 25th of March, when a succession of convulsive seizures occurred, ushering in his fatal illness. The following were the results of the post-mortem examination:

On removing the calvarium and dura mater the convex surface of the hemisphere was seen to be moist, and the convolutions were flattened. The intervals between them, especially round the branches of the middle meningeal artery, were beset with granular deposit, which, however, was strictly limited to the sulci. The sectional surfaces of the brain were moist and pale, and the ventricles were distended with serum. The surfaces of the corpora striata were roughened with minute granulations, and the septum lucidum was ruptured. On examining the base of the brain the pia mater covering the interpeduncular space was seen to be much thickened and hyperæmic. The thickening extended into the sylvian fissures, both of which were blocked up by exudation, and on opening up the right fissure, a mass of tuberculous matter as large as a filbert was exposed. All the other organs were carefully examined, but no trace of tubercle could be discovered.

On making sections of the mass of the right sylvian fissure it was found to be partly grey and semi-transparent, partly white and opaque. The grey parts consist of a transparent matrix, in which innumerable round or oval nucleated cells and nuclei are embedded. The diameter of each cell scarcely exceeds that of its nucleus. In some parts of the structure the nuclei, instead of being round or oval, present all intermediate forms between the spheroidal and those usually found in the connective tissue of the pia mater. The opaque white parts appear to consist of granular stroma, in which nuclei are still to be observed in greater or less abundance. Similar appearances present themselves in the thickened pia mater at the base of the brain. Not only here, but on the surfaces of the corpora striata, the vessels of the affected parts exhibited the usual changes. The multiplication of nuclei or nuclear cells had taken place in the sheaths of many of the capillary arteries to such an extent as to conceal their natural structure.

The three animals were inoculated from the tuberculous mass above described. The method employed consisted in passing a narrow-bladed scalpel under the skin, and then inserting the material into the wound with a pair of fine-pointed forceps.

No. 1. The animal was killed 56 days after inoculation. Morbid appearances were observed at the seat of insertion, in the lymphatic glands, in the spleen, liver, and lungs. The spleen was employed to inoculate three other animals. (See Obs. XI.)

No. 2. Killed 70 days after inoculation. The same organs were diseased. Three healthy animals were inoculated with morbid matter from the spleen, and three others with the blood. (See Obs. XII. and XIII.)

No. 3. Killed 93 days after inoculation. The lungs were healthy, the liver was scarcely at all diseased, but the spleen and lymphatic glands, as well as the subcutaneous cellular tissue at the seat of inoculation, exhibited the same appearances as in the other two animals.

Obs. II. May 2nd. — Four guinea-pigs were inoculated with sputum, collected three hours previously, of a patient affected with phthisis in the third stage, under the care of Dr. Quain, at Brompton Hospital. The patient died on the 16th of June, when the following appearances were noticed:

There were extensive and firm adhesions of both pleuræ. The right lung was for the most part crepitant, but beset with grey granulations, the smallest of which were semi-translucent. There was a small cavity near the apex, the base of the lung being hyperæmic and airless. The left lung was much contracted, of fibro-cartilaginous consistence, and perfectly airless. At its upper part was a large cavity containing much grumous fluid, and smaller cavities were scattered here and throughout its substance. The pericardium was adherent by both its surfaces, and was much thickened. When stripped off the heart it left a surface roughened with shaggy lymph. With the exception of ulceration of the ileo-cæcal valve there were no important lesions of other organs.

The material used for inoculation was purulent and creamy sputum, here and there streaked with blood. It was found on microscopic examination to consist of pus-cells, ropy mucus containing albuminous granules and oil globules, shreds of lung tissue, and sporules of fungi.

The animals were inoculated with an instrument devised for the purpose. It was similar to that subsequently used (see Obs. III.) but less perfect.

No. 4. Died 54 days after inoculation. The lymphatic glands, lungs, liver and spleen were diseased. The condition of the subcutaneous cellular tissue was not noted either in this or the following case.

No. 5. Died 51 days after inoculation. All of the internal organs were diseased.

No. 6. Died 75 days after inoculation. The usual appearances were observed at the seat of insertion, in the lymphatic glands and in the internal organs.

No. 7. Killed 77 days after inoculation. There were no morbid appearances.

Obs. III., May 10th.—Two guinea pigs were inoculated with recent expectoration of a female patient, admitted into Bromptom Hospital on the 9th of March, under the care of Dr. Quain. Death occurred on the 13th of May. The record of the post-mortem examination (at which I was present) was unfortunately not entered in the hospital register. At the time that the expectoration was collected the patient was in a state of extreme prostration, accompanied with the usual symptoms of the final stage of phthisis. The physical signs afforded evidence of extensive disintegration of the upper parts of both, and of the existence of one or more large cavities at the apex of the left lung. This diagnosis was verified after death.

The sputum consisted of pus-corpuscles similar in character to those above described. It contained fatty and albuminous granules, and various forms of fungus growth, viz., hyphaceous filaments, and spores of two varieties, one of which exhibited a necklace-like arrangement.

The instrument used for these and all subsequent inoculations consists of a steel canula, about three-fifths of a line in diameter, pointed at one end like the tube of a subcutaneous injection syringe, and fitted with a steel rod, which is of the same length and bevelled in the same as the canula. In using it, the material to be inoculated, if liquid, is drawn into the pointed end of the tube by pulling back the rod or piston for a line or two. If it is intended to employ solid matter, the instrument is easily charged by introducing the material into the same part of the tube with the aid of a pair of fine forceps. In inoculating, the point is passed under the skin to such a distance as to cover the whole of the bevelled part in the same manner as in hypodermic injection, and the material pushed out with the rod. In this way the insertion is accomplished with the utmost certainty, and with the least possible injury to the subcutaneous cellular tissue.

No. 8. Killed 69 days after inoculation. There was suppuration in the course of the wound, enlargement and softening of the subcutaneous lymphatic glands, and advanced disease of the spleen, liver, and lungs.

No. 9. Died 78 days after inoculation. The morbid appearances were similar to the last.

Obs. IV., May 14th.—Two guinea-pigs were inoculated with caseous material from the lung of the patient whose sputum was employed in Obs. III., who had died two days previously.

No. 10. Died 45 days after inoculation. Disease existed at the seat of inoculation, in the spleen, liver, and lungs.

No. 11. Killed 65 days after inoculation. The morbid appearances were of the same nature, but the lesions found in the internal organs were more advanced.

Obs. V., May 28th.—The guinea-pigs were inoculated, one (No. 12) with miliary tubercle from the lung, the other (No. 13) with miliary granulations from the peritoneum of a patient who died of acute tuberculosis in Middlesex Hospital, under the care of Dr. Goodfellow. The morbid appearances were as follows: Both pleuræ were studded with minute semi-transparent granulations, the right being partially adherent. Grey miliary granulations were disseminated abundantly throughout both lungs, especially the left, but *no deposit of old tubercle could be discovered*. The under surface of the diaphragm and the serous coverings of the liver and spleen were dotted with granulations, those of the liver having membranous shreds attached to them. The liver substance appeared normal to the naked eye, but on microscopic examination "numerous minute aggregations of nuclei, having all the characters of tubercle (Dr. Cayley), were found to be disseminated through it. Several opaque yellow nodules existed in the kidneys, the size of which varied from that of a millet seed to that of a hemp seed. There were small tubercular ulcers in the ileum, particularly in Peyer's patches, and the corresponding mesenteric glands were enlarged. The pia mater was injected and œdematous, and grey granulations were observed in the sylvian fissures. No other morbid appearances were detected.

No. 12. Died 31 days after inoculation. There was disease of the spleen, lungs, and liver. The lymphatic glands were also diseased, but the state of wound was not noted.

No. 13. Died 45 days after inoculation. There was suppuration in the course of the wound, with enlargement and softening of the lymphatic glands; the internal organs exhibited the usual appearances.

Obs. VI., May 28th.—Three small guinea-pigs were inoculated with infiltrated tubercle (caseous pneumonia) from the right lung of a female patient, aged 22, who died in Brompton Hospital the day before, under the care of Dr. Pollock. The condition of the diseased organs was as follows: There were firm adhesions of the right pleura towards the apex, the rest of the pleural cavity containing coagulated blood, the origin of which was not ascertained. The right lung, with the exception of the posterior part of the lower lobe was densely infiltrated with solid tuberculous material. Near the apex there was a small cavity containing grumous fluid. The left pleura, which was slightly adherent, and the left lung was free from tubercle excepting at its apex, where there were a few small masses of consolidation. The other organs were healthy.

No. 14. Died 44 days after inoculation.

No. 15. Killed 54 days after inoculation.

No. 16. Killed 54 days after inoculation.

In all these animals the lymphatic glands, spleen, lungs, and liver were diseased. In No. 16 there were also nodular deposits in one of the kidneys. The inoculation wound and the surrounding subcutaneous cellular tissue exhibited the usual appearances.

Obs. VII. May 28th.—A guinea-pig was inoculated with material from marginal surrounding an intestinal ulcer in a female patient, aged 43, who died the day before in Brompton Hospital, under the care of Dr. Alison. The condition of the organs was as follows:

The upper two-thirds of the left lung were infiltrated with grey doposit, the lower third containing air. The right pleura was firmly adherent, and the right lung was scattered with tuberculous masses. There were numerous ulcers of irregular form with thickened margins in the cæcum and ascending colon; rounded ulcers of similar character were met with at intervals towards the lower end of the ileum, some of which were as large as a florin. The other organs presented no lesions of importance.

No. 17. Killed 54 days after inoculation. The pathological appearances observed at the seat of inoculation, in the lymphatic glands, and in the internal organs, were of the same kind as in the other experiments.

Obs. VIII., May 31st.—Three guinea-pigs were inoculated with miliary tubercle from the lung of a female patient, aged 27, who died at the Brompton Hospital three days previously, under the care of Dr. Pollock, of acute tuberculosis complicated with cerebral symptoms. Both lungs were scattered with miliary nodules of grey semi-transparent material; the pleura was in some parts natural, in others more or less opaque as if infiltrated with opalescent deposit, while in others it was studded with numerous granulations, some of which were exceedingly minute, others as large as hemp seeds. These on microscopic examination were found to consist of nuclei of various forms and sizes, which appeared to be grouped in greatest abundance in the neighborhood of minute arteries. The pia mater exhibited no appearances of disease which could be recognized by the naked eye, but on microscopic examination it was found that there was multiplication of nuclei in the sheaths of the capillary arteries.

No. 18. Died 98 days after inoculation.

No. 19. Died 28 days after inoculation.

No. 20. Died 56 days after inoculation.

In each case the lymphatic glands, liver, and spleen were diseased; the lungs were diseased in No. 18, but were free from disease in Nos. 19 and 20.

Obs. IX., June 10th.—Two guinea-pigs were inoculated from tuberculous deposit in the great omentum of a patient who died in Bromptom Hospital, under the care of Dr. Alison. In this case the most important post-mortem appearances were as follows: Both pleuræ were firmly adherent: grey, elevated miliary granulations were disseminated throughout the whole of both lungs. The bronchial tubes were dilated and the bronchial mucous membrane thickened and injected. The bronchial glands were enlarged and indurated. The heart was firmly adherent to the pericardium, the aortic valve atheromatous and incompetent. The peritoneal cavity contained about two pints of greenish fluid. The mesentery was scattered with grey granulations. The omentum was thickened and indurated, and formed a hard mass, which during life had been felt through the abdominal wall. The spleen was enormously large and hyperæmic, and contained masses of cheesy deposit. In the cortical substance of the kidney there were also several nodules of cheesy material. The mesenteric glands were much enlarged and indurated.

No. 21. Died 108 days after inoculation.

No. 22. Died 93 days after inoculation. With the exception that the morbid processes were more advanced in all the organs, the appearances corresponded with those previously observed.

In recently formed abscesses the majority of the corpuscles presented characters which do not appear to me to be distinguishable from those of normal human pus. These corpuscles measured from $\frac{1}{2500}$ to $\frac{1}{2000}$ of an inch in diamter, and exhibited when treated with very dilute acetic acid from two to four highly refractive granules, forming a central nucleus. Along with these were always observed other corpuscles of less uniformly spheroidal form, which resembled conglomerates, and usually contained a greater or less number of fat granules. These were much larger than the ordinary pus corpuscles, their diameter being from $\frac{1}{1200}$ to $\frac{1}{800}$ of an inch. In the abscesses, that is those in which the pus had become cheesy, a marked difference was observed in the character of the corpuscles, and particularly in their conduct when acted upon by weak acetic acid. This reagent was found to have lost its power of resolving the corpuscles into a bifid, trifid, or quadrifid nucleus enclosed in a zone of transparent substance; in short, the corpuscle was comparatively little altered by the acid, and retained a distinctly globular form. The larger glomeruli were found in much greater numbers in the caseous than in the creamy abscesses, and in some instances appeared to be the only corpuscular elements.

The structular character of the connective tissue indurations was observed (1) induration, connecting one abscess with another, and (2) in the walls of the abscesses. The cords were found to consist of a dense fibrillated stroma, in which the direction of fibrillation was parallel to axis of the cord. This stroma was not in the slightest degree wavy, and when fine sections of it were made in the direction of fibrillation it was found to be studded with innumerable staff-shaped nuclei, all of which assume the same direction as that of the fibrillation.

In making sections of walls of abscesses it was found that they always presented the same structure, viz., that they invariably consisted of condensed connective tissue, having the same character as that which forms the cords of induration. This tissue was continuous, externally, with the normal subcutaneous tissue. Internally, the abscess wall was lined by a layer of pulpy substance. This material (so called pyogenic membrane) was found, when examined separately, to consist of spheroidal cells embedded in the meshes of a recticulated transparent stroma; when examined in sections made perpendicularly to the abscess wall it could be satisfactorily made out that this stroma was continuous with that of the dense fibrillated connective tissue on which the pyogenic membrane rested . . .

It has already been stated that in many cases there is no suppuration at the seat of inocculation. This was particularly observed when material taken fresh from the diseased lymphatic glands of previously inoculated animals was used. In such animals, if killed within four weeks of inoculation—

[. . the only morbid alteration which can be discovered consists in the existence at the seat of inoculation of a knot of hardened and thickened skin. On making a section of the diseased part, and examining it with a lens, it is seen that the hard mass lies immediately under the true skin, of which in fact it seems to form a part: and that it consists of an aggregation of smaller masses, separated from each other by more or less irregular bands of connective tissue. At a later period, that is say seven or eight weeks after inoculation, other nodules are found in the neighborhood of the original one, which, excepting that they are more disseminated, resemble the little masses already referred to, each being enclosed in an indistinct capsule of reticular connective tissue similar in character to that which enters into the composition of the nodule. On examination of the smallest of these granulations in the recent state, nothing can be discovered excepting that it is a mass of round cells like lymph corpuscles. In sections of hardened tissue it is found that these corpuscles are enclosed in a fine meshwork of fibres, which in structure resemble that of a lymphatic gland in incipient fibroid degeneration. . . . Of the relation of these subcutaneous nodules to the lymphatic capillaries I regret to say that I know nothing, as I have altogether failed to trace these vessels in the diseased tissues. . . In the loose connective tissue between the muscular and tendinous layers it is common to find minute granulations, some of which are so small as to require a lens for their detection. On superficial examination these might be regarded as of the same nature with those found in the cutis. That they are really inflammatory in their origin is indicated by the large size of the cells, and their obvious development from connective tissue corpuscles, as well as by the absence of any reticulum. I have never observed any change in the muscular or tendinous tissues themselves.]

In all animals the subcutaneous lymphatic glands were more or less diseased, the changes consisting in enlargement (hyperplasia), induration, and caseous degeneration; this last resulting either in softening or in the formation of cretaceous concretions. In every instance those glands were most affected which were in the neighborhood of the inoculation wound. As therefore the insertion was usually made in the shoulder, the axillary glands, as might be readily anticipated, were the principal seat of disease. So constantly indeed was this the case, that it could always be discovered whether an animal was diseased or not by pressing the finger in the axilla. In the healthy guinea-pig two glands can be distinguished in the axillary artery, where it crosses the shoulder-joint; the other is situated near the posterior edge of the scapula in the angle between the triceps muscle and the teres maximus. The latter which in the guinea-pig is more frequently diseased than any other, will be hereafter referred to as the scapular gland. The other subcutaneous glands which are apt to be affected are those which lie on either side of the trachea (tracheal glands), and those near the sub-maxillary salivary glands (sub-maxillary glands). The inguinal glands are also occasionally diseased.

The enlargement of the glands was enormous. In the greater number of animals the scapular gland had attained 40 or 50 times its normal weight, and five or six times its natural length. Enlargement was never obseervered without other changes. The hypertrophied glands always exhibited in section patches of white or yellowish opacity of the cortical substance, indicating the commencement of caseous degeneration. The condition of the glands, as of the subcutaneous areolar tissue, was carefully examined in nine animals only. In three of these, Nos. 16, 17 and 20, there was hypertrophy with induration and cheesy degeneration. In the six remaining animals the scapular gland on the same side as the inoculation wound was converted into an abscess containing creamy or cheesy pus, and in one of these animals, No. 21, the tracheal glands of the same side were in a similar condition. It was further observed with reference to these nine guinea-pigs, that the three cases in which there was no suppuration of the glands were precisely those in which there were no abscesses under the skin in the neighborhood of the inoculation wound, so that there was reason to regard the lymphatic glands as dependent upon the same conditions as the dissemination of purulent foci in the subcutaneous tissue.[1] . . .

2. *Appearances observed in the Lungs.*—Of the 21 guinea-pigs successfully inoculated the lungs were found free from disease in three only. In the rest the lesions observed consisted in the formation of nodules of grey induration, which were disseminated in 14 of the cases, partly disseminated, partly confluent in the rest. These changes were in two animals associated with adhesive pleurisy, viz., in Nos. 10 and 21.

In the healthy guinea-pig the lungs weigh about four grammes, that is about one-hundredth part of the weight of the body. When altered by adenoid deposits they often weigh as much as 15 grammes. In those cases in which the nodules are small and much disseminated the weight scarcely exceeds the normal. The increase of weight due to the new growth was most considerable in those in which the duration of life inoculation was greatest; thus, in three animals which when dissected, had been inoculated respectively 93, 98, and 108 days, the weights were severally 2·2 per cent., 3·7 per cent., and 4·9 per cent. of the weights of their bodies.

As has been stated, the new growth either assumed the form of disseminated nodules or pervaded the tissue of the lung to such an extent that considerable portions of the organ were consolidated. There was, however, evidently no essential difference between the two forms of lesion, for in those cases in which the induration was continuous in some parts, it was constantly observed that there were disseminated nodules in others, and that the material of which the nodules were composed was identical in all its characters with that which formed the larger masses. We proceed to describe the nodular, which must be regarded as the primary form of the alteration.

The nodules, when examined with the naked eye or with a lens, present great uniformity of appearance. They are always found in much greater numbers under the pleura than in in the parenchyma of the lung. The sub-pleural surface of each nodule is slightly convex, so that it projects more or less above the general surface of the pleura, exhibiting itself as an iron-grey patch, which contrasts strongly with the pink white hue of the healthy lung tissue which surrounds it. When the nodules are small and the whole sub-pleural surface is convex, but in the larger nodules the centre of the patch is somewhat depressed, so that the margin forms an irregular annular prominence. On cutting through a nodule at right angles to the pleural surface it often appears to form a blunt cone, of which that surface is the base. The color of the nodules is sometimes pale grey, but much more frequently it is steel grey or slate colored, especially towards its margin: and on section it exhibits a similar color. The smaller nodules have the semi-transparent appearance which is recognized as a characteristic of miliary tubercle. In the larger ones the translucency is confined to the external parts, the centre being opaque, and of softer consistence than the rest. There are, as may readily be understood, great differences as regards size. In two of the animals they were all no larger than pin-heads, while in others the diameters varied from one-fiftieth to one-tenth of an inch. From their form and structural relations it is evident that they are interstitial new growths which do not displace the lung tissue, but are incorporated with it and form part of it. In order to satisfy one's self of this fact, all that is necessary is to examine those nodules which happen to lie near the sharp margins of the organ. It is then readily seen that the form which each nodule assumes is not its own, but that of the organ in which it grows, and that the space it occupies is often not greater than that which would have been occupied by the corresponding portion of lung in the natural state.—*By J. Burton Sanderson, M.D., F.R.S., in the Practitioner.*

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[1] This inference was confirmed by later experiments.

FORCED FEEDING AND OVERFEEDING.—Forced feeding, long used in this country and elsewhere in certain cases in which food is rejected, owing either to mechanical obstruction or voluntary refusal, has lately attracted much attention in France, as a means of nutrition in certain kinds of anorexia and intractable vomiting, especially such as are met with pretty frequently in phthisis. An interesting review has been made by Dr. A. Mayor, of the *Revue Medicale de la Suisse Romande*, of the work done in this department in Paris by M. Debove and Dr. Dujardin-Beaumetz. The word forced feeding becomes in this case so far a misnomer, that there is no opposition on the part of the patient. Under such circumstances, the designation should, it is suggested, be super-alimentation or "stuffing." It will, however, suffice for the present to retain the old designation.

On October 28th, 1881, M. Debove reported to the Medical Society of the Paris Hospitals the interesting and paradoxical cases of two phthisical patients in whom he had been made to supplement normal feeding, which intractable vomiting had rendered impossible, by alimentation by means of the œsophageal sound. The first patient, in the third stage of phthisis, had reached such a degree of anorexia, that she rejected all food, even milk. M. Debove, supposing that the anorexia might in this, as in other affections be independent of an affection of the gastric mucous membrane, it occurred to him to inject a quart of milk into the stomach. It was well tolerated. The treatment was renewed with constant success, and soon the dose of food injected was increased; and from artificial alimentation he advanced to super-alimentation. Two quarts of milk, ten eggs, and two hundred grammes of scraped raw flesh, constituted the daily ration of the patient. Under the influence of this *regime*, the amelioration of her condition was so apparent, that the treatment was immediately attempted in other cases.

When M. Debove came to the Society for the first time to state the results of this new method, some of his colleagues, already cognizant of the success he had obtained in his wards, had tried the employment of super-alimentation on their patients, with remarkable results.

The method of treatment is simple enough. For this purpose, M. Debove introduces a simple œsophageal tube, and administers by it a gradually increasing quantity of food, reaching at last a very considerable amount.

The instrument which M. Dujardin-Beaumetz now recommends—an œsophageal tube reduced to half its ordinary length, and therefore, not reaching quite into the stomach—is introduced on the stylet. It is connected by an India-rubber tube to the lower part of a glass jar, into which is poured the alimentary fluid, and in the upper part of which jar air can be compressed by means of an India-rubber ball. This vase being placed on the table, the patient can himself handle the India-rubber ball, and regulate at his pleasure the amount of food introduced and the rapidity of feeding. It is obvious that a simple tube and funnel of the simplest construction might be employed, and perhaps the simpler the better.

In a few cases, in which the stomach appears to be dilated, it may be well, in the first instance, to wash out this cavity with a four per cent solution of bicarbonate of soda, or six per cent of sulphate of soda. In the absence of dilatation such treatment may be omitted; and it is only necessary, then, at once to introduce the aliment into the funnel of the jar. This consists, usually, of a sort of broth of milk, eggs, and a certain quantity of meat. M. Dujardin-Beaumetz recommends the addition of common salt. At first, finely scraped raw meat was employed, but lately M. Debove recommends powdered cooked meat for this purpose. The flesh, cut off a fillet of beef, is finely minced, pressed into a cake, carefully baked, then powdered, and passed through a silken tamis cloth. An impalpable powder is thus obtained, which resembles in flavor roast meat, and which represents four times its weight of raw meat. This is perfectly preserved so long as it is kept from wet. Its main defect is its cost, but this may be diminished by mixing it with cooked and powdered lentils.

The vehicle employed is milk, two quarts a day; or, for some patients, two eggs are added to the bouillon.

M. Dujardin-Beaumetz adds, sometimes, to the repast three or four spoonfuls of peptone, or subnitrate of bismuth, where there is intestinal irritation and diarrhœa. Certain contra-indications have already been pointed out by experience.

It might be supposed at first sight that cases of acute laryngeal tuberculosis would have been especially suitable for treatment, and likely to be benefitted by it. The contrary has been found to be the case. Again, the risk of introducing the sound by mistake into the larynx is not so small as might be supposed, nor is the error always shown by great distress of breathing or aphasia. Before the injection is made, the patient should be required to breathe out, when it will be ascertained whether air is expelled through the tube.

Some patients are intolerant of the œsophageal sound, and, if this cannot easily be got over, it constitutes a serious obstacle to the treatment. Occasionally, the patient is seized with the desire to vomit, and there is a reflux of the fluid into the sound. This may often be overcome by gentleness and patience, and by the introduction of very small quantities of food at a time. In any case, it is desirable to commence with moderate doses of food, not more than twenty-five drachms of powdered meat; but at each dose this may be gradually augmented. Moreover, the individual digestive aptitudes must be considered, and the occasional individual intolerance of special foods, such as milk, eggs, or soup. Food should never be given until it has first been tested, and found to be in a perfect state of preservation.

As to the results of this treatment in phthisis, it is too early to pronounce any definite opinion; it would appear, however, that, even in the third and acute stage of phthisis, super-alimentation has prevented, at least arrested, the progress of the disease. For the rest, it is evident that a distinction must be drawn between those phthisical patients who have retained their appetite, and those who, on the contrary, are suffering from protracted vomiting and aversion to food. In such cases, striking results are recorded, anorexia giving place to appetite, sweating ceasing, and sleep returning. In some patients, an increase in weight immediately occurs, amounting to as much as from eighty to 100 grammes a day; at the same time, the daily weight of urea increase from eighteen and twenty grammes to fifty, sixty, often eighty grammes. Thus may be noted the fabulous activity which super-alimentation impresses on the organic changes and the phenomena of combustion; and it is possible one may conceive from this fact, that the ground is modified on which the disease is evolving.

The pulmonary symptoms undergo no less important modifications; in such cases, the cough and expectoration diminish, says M. Debove, and then disappear. The stethoscopic sounds of the bronchial tubes follow the same retrogressive course; the signs of pulmonary induration on the caverns seem to persist; but, in one case, first observed by M. Debove, in which death supervened accidentally from a traumatic injury, and in which *post mortem* examination was made three and a half months after the commencement of the treatment, the walls of the cavern were found to be lined with healthy granulations, and the lesions in course of repair.

Other uses of overfeeding have been suggested. Thus, in a case where the patient had suffered severe losses of blood from a polypus, and was in a state of weakness which rendered an operation dangerous, she was submitted by M. Pennel to this method of overfeeding, and in a short time her strength and appetite returned sufficiently for surgical intervention, which was followed by full success.

Artificial feeding has been employed successfully by M. Troisier, who overcame intractable vomiting, occurring in cases of convalescence in typhoid fever; and it is suggested by M. Depove in some of his cases of extreme chlorosis, when iron cannot be tolerated.

In such cases, this treatment of artificial feeding has succeeded as a means of raising the nutrition sufficiently to enable the patient to support and utilize the iron which may be administered to her.

Again, there are no cases where the ordinary alimentary treatment necessary for the disease inspires the patient with insupportable disgust, which is often the case with the milk-treatment of Bright's disease, and of round ulcers in the stomach. In such cases M. Debove has employed the œsophageal sound with great advantage, dissolving in ordinary milk, a sufficient quantity of concentrated milk-powder, and thus introducing into the stomach, in three catheterizations, the value, without the quantity, of six quarts of milk.

In some cases, M. Dujardin-Beaumetz, considering the ordinary dose of one to two tablespoonfuls of cod-liver oil, which is all a patient can take through the mouth, to be too small, adds to the alimentary broth six or seven tablespoonfuls of cod-liver oil, and in this way the number of phthisical patients who are easily and effectually able to digest it is considerable.

What may be the physiological interpretation of the fact that the stomach digests and assimilates in astonishing quantities food introduced by the œsophageal sound, which it rejects when introduced in other modes, it is difficult to say. The compression of the pneumogastric nerve by the bronchial ganglia has suggested some possible hypothesis; but none has been brought forward which can explain phenomena so much in discord with the actual theories of vomiting. Observation, however, may for the time take the place of theory.

What may be the future of this method of artificial feeding and over-feeding, it is not necessary here to predict. It is certain that its application will be limited, and its usefulness only occasional. It is our purpose here, however, only thus briefly to note the very interesting clinical observations which have been brought forward by French physicians in this matter.
—*British Medical Journal.*

Contributions to the Chemistry of Bile.—The remarkable behavior of the galls of Tübingen cattle with ether and hydrochloric acid has already been noticed by the author. It was thought that a study of the relative quantities of glycoholic and taurocholic acids in different samples of bile would explain why some crystallized at once on addition of ether and hydrochloric acid, and other kinds refused to do so. To this end, ten samples of bile were analyzed, six of which gave a rapid crystallization of glycoholic acid, one a weak one, and three none at all; it was found that the quantities of taurocholic and glycoholic acids respectively were as one to five in the samples from which the latter acid crystallized rapidly, and about equal in those where no crystallization at all occurred. That this result had nothing to do with the question as to the absolute increase or decrease in quantity of each acid in the bile was shown by the fact that dilution in the one case did not put a stop to crystallization, whilst in the other concentration did not induce it.

Again, experiments with mixtures of the pure salts of taurocholic and glycoholic acids showed that the relative proportion of the two acids present in solution together had very little, if any effect on the crystallization of the latter. Hence those biles in which there is no appearance of crystallization of glycoholic acid on addition of ether and hydrochloric acid, must contain some other body, the presence of which is possibly dependent on the nature of the animal's diet, and which prevents the crystallization of glycoholic acid under those conditions.—G. Hüfner, *Journal Chemical Society.*—*Amer. Journal of Pharmacy.*

Some Observations on Consumption.—Dr. William H. Pearse, in the course of some observations in the *Medical Times and Gazette*, says that he is being continually struck with the phenomenon that in the phthisical, the upper maxillary and nasal bones have an exaggerated tendency to one or the other side. In twenty-four cases to the left and thirty-four to the right. Where the obliquity was to the right, the right lung was diseased in sixteen cases, the left lung in eighteen. In those in which both lungs were diseased four had the obliquity to the right and one to the left side. He does not offer an explanation.

He has often noticed among the poorer classes who are phthisical a fattening of the face across the root of the nose. One tall young woman with infraclavicular regions much sunken, and who has been under observation during two years, but in whose lungs no disease can be traced, has a prognothic face with teeth of negro type.

Sometimes the end of the nose is lumpy in proportion to the organ; in others, abnormally pointed; in others the terminal cartilages are large and unsymmetrical. He has on many occasions been able to predicate phthisis from the unsymmetrical and rather terminal cartilages of the nose.

Often in the phthisical the head and neck are not well set up, but the neck, leaning somewhat forward, is at the same time sunk down as it were between the shoulders.

Correlation exists between the hands and phthisis; while some have exquisitely fine hands, a large proportion have unduly large hands. One may often predicate phthisis from the large and cold hands.

The body in some cases will develop into that of that of a fine young man or woman, the thorax remaining that of a child.

ON THE ALLEGED DIGESTIVE CAPABILITIES OF THE WHITE BLOOD-CORPUSCLE; A CONTRIBUTION TO THE PHYSIOLOGY OF CELL-PROTOPLASM.—

Read at the annual meeting of the British Medical Association at Worcester, August, 1882, by E. A. Schafer, F. R. S., and published in the *British Medical Journal.*

The well known fact that the white blood-corpuscles resemble the amœba, in seizing upon any particles with which it may come into contact, and retaining them for an indefinite time within its protoplasm, has led to the assumption that, like the amœba, the whole corpuscle possesses the power of digesting organic substances, which may thus be included within it. The assumption has for the most part been tacit; but it has recently been spoken out by no less an authority than Ranvier.

The subject is one which has engaged my attention for a number of years; and I have, both personally and with the assistance of pupils, instituted a large number of experiments, with the view of determining, if possible, what amount of digestive power the white corpuscle can really be said to possess. Our experiments have been made chiefly upon the white corpuscles of the newt, and these have been tested with particles of proteid, of fat, and of starch, which in every case were suspended in salt solution. The proteid particles were in the shape of torulæ of yeast (which were presented to the corpuscles either in the living condition or after having been killed by boiling;) the fat was in the shape of milk-globules; and the starch employed was obtained by washing the dough of wheaten flour with salt solution, and, after allowing time for the courser granules to subside, taking a drop of the supernatant fluid containing the finest particles in suspension.

It was generally desired, in these observations, to restrict the number of particles of any substance which were to be included in the corpuscles. With this end in view, a very small proportion of the fluid containing the particles in suspension was used, compared with the amount of blood employed; and corpuscles were selected for observation which had only taken in one or two of the particles. In all cases the same corpuscles was kept under continuous, or nearly continuous, observation for periods varying from several hours to two days. This could be done by making the preparation in a Stricker's moist chamber, or in the ordinary way upon a glass slide; but, in the latter case, bordering the cover-glass with oil or paraffin, and being careful to include underneath it a number of air-bubbles.

The general results of the experiments may here be briefly enumerated. In no case observed, although the observation extended in some instances to one or even two days, and was never less than five hours, did any particle entirely disappear by solution within the corpuscle. In some cases, the particles became surrounded by a zone of clear fluid, and included in this, were moved about by the streaming of the protoplasm to different parts of the corpuscle; but, to all appearance, they remained unaltered. Exception may perhaps be made for the yeast torulæ, in which, in many instances, the distinction between the protoplasm and its included vacuole became obscured; but it was not possible to affirm that this was due to anything else than the lessened distinction with which the torulæ could be seen in the irregular corpuscle. In the case of starch-granules, it was found that, however minute they might be, and however long included, the addition of iodine solution always produced in them the usual intense blue color. It was noted, however, that the protoplasm of white corpuscles, which had retained many starch-granules, tended to be more deeply tinged by iodine than that of others which contained no starch, whence it may perhaps be inferred that a small amount of starch had undergone transformation into dextrine. On the other hand, it was not found that white corpuscles, which had been abundantly fed with starch exhibited, on subsequent treatment with iodine, more of the claret-tinted protrusion indicative of glycogen than others which had not contained any starch-granules.

It is clear, from the generally negative character of the results obtained, that the assumption of the possession by indifferent protoplasm, and especially by that of the white corpuscle, of distinct digestive powers, rests upon an entirely insufficient basis of fact; and, although it is scarcely possible to prove that no change whatever occurs in the included organic particles, it may yet be affirmed that, if any change is produced, it is so slight in amount as to be altogether beyond the range of our present means of observation. Moreover, considering that the white corpuscle inhabits a medium which contains in solution all the elements necessary for its nutrition, there is, *à priori*, an improbability of its posessing the means of reducing them from the solid to the fluid condition.

The Treatment of Typhoid Fever by Salicylic Acid.—At the Académie de Médecine, M. Vulpian reported that, in the course of an attempt to treat typhoid fever by the internal administration of antiseptics, he had found that salicylic acid was the most useful in reducing the temperature of typhoid patients. He gives as much as six grammes (a drachm and a half) a day in small doses of twenty-five to thirty centigrammes every half-hour. In some, particularly young patients, delirium is produced, and in others albuminuria; this latter symptom is, however, very frequent in typhoid fever, and it, moreover, disappears when the patient is able to take seven grammes of salicylic acid a day. Under this treatment, the temperature decreases from 3° or 4° Cent. (5.4° to 7.2° Fahr.) in forty-eight hours. M. Vulpian does not, however, pretend that salicylic acid does more than reduce the temperature; it does not shorten the duration of the disease, nor lessen its mortality. Of all patients, however, which were treated in different ways, those under the salicylic acid treatment improved most rapidly. By interrupting the treatment, M. Vulpian ascertained that the salicylic acid actually was the cause of the lowering of the temperature, which action was continued during convalescence if the treatment were carried on.—*British Medical Journal.*

Alarming Symptoms Resulting From Eight Grains of Potassium Iodide.—While a few cases have been reported of dangerous symptoms following the administration of medicinal doses of potassium iodide, the number is not so large as to make the following case of no interest:

Miss K., a well-developed unmarried woman, twenty-eight years of age, consulted me because of a swelling of the right parotid gland. The enlargement was small. On discovering a slight scaly eruption on the scalp, I ordered a mixture containing eight grains of potassium iodide in each dose; the mixture was composed of the iodide, syrup and water. One dose of the medicine was taken at 8 P.M. In less than an hour disagreeable symptoms appeared about the mouth and throat; these increased in severity and new ones were added. At 11 o'clock, three hours after the medicine was taken, I saw the patient; found the symptoms alarming; the pulse was 60 and full; the axillary temperature 95°; face pale; slight edema present over nearly the entire body. The face was markedly edematous, especially the upper eyelids, which were so swollen as to render opening the eyes impossible. There was an abundant secretion of viscid saliva, from which the mouth was cleased with great difficulty. The mucous membrane of the nose was so swollen as to make it impossible to force air through the nasal passages. The lips, tongue, uvula, and soft palate were greatly enlarged. There was nausea but no vomiting, and much pain throughout the entire abdomen. Respiration was greatly embarrassed, apparently because of edema of the laryngo-tracheal mucous membrane. The patient would every minute start up in bed, toss her arms wildly about in her struggle for breath. The articulation was so impaired that it was with difficulty she made herself understood. The hypodermic use of ¼ grain morph. sulph. greatly relieved the respiration. The hypodermic injection was repeated in three hours, and the symptoms of poisoning gradually disappeared, although at the end of twenty hours after taking the iodide, there was still greater suffering, the eyelids presenting a greater swelling than I ever witnessed. In seventy-two hours all the apparent effects of the medicine disappeared. As a matter of experiment I gave this patient, one week after her recovery, *one grain* potassium iodide, and in two hours all the symptoms recorded above, but in a much less degree were present. These disappeared within twelve hours. A quantity but little greater than the dose first prescribed of the medicine would have, I believe, destroyed the patient.—By J. R. Weist, M.D., in the *American Practitioner.*

Treatment of Anasarca.—Read before the Victorian Branch of the British Medical Association, by George Rothwell Adam, M. D. et Ch. M., Edin., and published in the *Australasian Medical Gazette.*

Before describing to you the methods I propose for treating œdema of the legs, I must state that it is not entirely original. It is simply a modification of that proposed and practiced by Southey. Having frequently seen unpleasant and sometimes disastrous results, or rather accompaniments, of Dr. Southey's draining canulas, I was induced to inquire into the causes of the irritation set up in the skin. It appears to me that there are two leading factors producing an irritation of the skin, resulting frequently either in simple erythema, erysipelas or abscess. In the first place, in an œdematous limb the skin elements, become compressed and their vitality is lowered by interference with their nutrition. This is well illustrated when an ulcer forms, cicatrization will not take place until nutrition is restored to the skin elements, when the sore usually heals kindly, only to break out again as the dropsy re-accumulates. The second factor appears to be the presence of an irritating body. This I conceive to be the dropsical fluid. If this fluid is tested it will be found to possess a weak alkaline reaction. Now it seems probable that any fluid possessing a positive re-action (either acid or alkaline) flowing over a skin that is badly nourished, and whose epithelium put on the stretch, will be quite a sufficient irritation to cause untoward complications. Taking this view of the case it appeared to me that if by any means this fluid could be constantly kept neutral while it was draining away, one of our factors would be removed. Accordingly the following method was adopted: The limbs to be drained were sponged over with a solution of boracic acid. This being a mild, non-irritating acid was judged to be sufficient to neutralize the serum. Several punctures were then made through the skin in an upward direction on a dependant aspect of the leg. Through these the dropsy drained freely. So far the experiment proved satisfactory, but only one of the conditions had been fulfilled. Something was required to keep the serum neutral, and also to prevent it wetting the patient and the bed. In order to meet both difficulties, moderately sized Turkey sponges were thoroughly soaked in the saturated solution of boracic acid, squeezed dry, and applied over the punctures, and kept in position by a turn of bandage lightly applied. These sponges required to be removed in the course of two or three hours, and the accumulated serum squeezed out and again soaked and re-applied. In this manner a couple of pints or even more of serum could be drained in the course of twenty-four hours. And in all the cases I tried there was not the slightest trace of irritation of the skin. Of course there is no method but which will have its disadvantages, and this is no exception to the rule. The attention required, although great, is not unsurmountable.

For any case in which this method would be admissable would want considerable nursing, and no extra labor would be involved by it. Perhaps the greatest disadvantage is that the punctures require to be repeated nearly every twenty-four hours. But this is not so painful as may be supposed, for the skin, by tension and loss of vitality, is rendered less sensitive. Indeed, as a matter of fact, the patients rarely object to the operation on that score, being only too glad to get rid of their dropsy. Another disadvantage is that in some exceptional cases only a drop or two of fluid follows the puncturing. The cause of this I am unable to state, probably the serum contains too much albumen, or it may be, as Professor Spencer calls it, solid œdema. My most successful cases as regards draining were those in which the dropsy was due to cardiac insufficiency. Œdema due to Bright's disease as a rule did not drain so easily. If by any means the neutralizing could be applied to Southey's canulas, an almost perfect system of drainage would be established, and then one of our conditions would remain unfulfilled. The canulas would be a constant source of irritation. So that I fear we have still to look for the acme of drainage. The advantages of the proposed method are, I think, obvious enough. A reduction of irritation with, at least in the majority of cases, an efficient drainage, and this at a relatively small cost of labor. With regard to the advantage or disadvantage of external drainage I say nothing, except that I have found in many cases diuretics and purgatives useless until external drainage had been resorted to. And then, and not till then, they acted satisfactorily.

NERVE VIBRATION.—Dr. Mortimer Granville's theory of the nature and causation of that variety of syphilis which simulates the graver forms of locomotor ataxy, deserves the earnest consideration of all working members of the profession. I will not go into the subject now as it involves so many debatable points of detail; but, as regards the beneficial effects of nerve vibration, judiciously applied in suitable cases, I can bear testimony. In this connection I should like to mention some interesting results which have occurred in my own practice. In a case which I was recently treating by nerve vibration, the patient presented himself one day with all the indications of a sharp attack of influenza—injected conjunctivæ, frontal headache, etc. Percussion over the superior cervical ganglia, within a few minutes, unexpectedly removed both the objective and subjective symptoms. In another case, still under observation, where there is a difference in the size of the pupils, percussion over the seventh cervical vertebra renders them equal, in which state they remain for a few days after each application. In a case of protracted melancholia in a married lady, which I am now treating by peripheral nerve vibration, the most promising results have already been obtained. After six months' trial of this remedy, in various nervous affections, I am inclined to believe that much benefit may be looked for from its use, and would recommend my brother practitioners to give it a full and patient trial, where ordinary treatment has been ineffectual. I anticipate good results from nerve vibration in these analogous forms of nervous disturbances, which, for want of an appropriate name, we term mimetic. Hugh Campbell, M.D. *in British Medical Journal.*

DEATHS FROM CHLOROFORM. — The *British Medical Journal* of September 16th reports two more cases of death during chloroform administration, one at St. Bartholomew's, the other at the London Hospital. The coroner's jury considered it "death by misadventure."

SURGERY.

A NOTE ON THE TREATMENT OF LOCOMOTOR ATAXY BY PRECISE NERVE-VIBRATION.—J. Mortimer Granville, M.D., contributes the following to the *British Medical Journal:*

I do not think the evidence collected, up to this point, is sufficient to justify the assertion, that locomotor ataxy can be certainly cured by nerve-vibration; but the large measure of success I have recently obtained in dealing with some very advanced cases of this truly terrible disease, seems to render it incumbent upon me to place the facts before the profession. The cases I have had have all been clearly marked, with entire absence of patellar tendon-reflex, and with the characteristic impairment, in some instances amounting to almost complete loss, of the power of co-ordination. It is not my intention to report these cases at present, as I am anxious to extend the area of observation, both as regards the number of cases and their duration, before committing myself to a final judgment. Meanwhile, there are certain clinical facts which may be helpful to others, and ought, therefore, to be communicated. I will try to state them as tersely as possible.

1. In every instance, I find exaggerated reflex irritability on application of the percussor to the periphery. For example, when it is applied over the anterior tibial nerve, the foot is drawn forcibly

up, which never happens in the case of a healthy subject. In some instances, the irritability is so great that the legs and feet may be turned and drawn in any direction at pleasure, by vibrating the appropriate branches of the nerves supplying them. No effect is produced by percussing the muscles; the effect follows only precise vibration of the nerves.

2. This reflex irritability, or excitability, seems to me to be the real hindrance to the walking; the loss of sensation, which is incident to the malady, being of comparatively secondary importance as regards the disability for locomotion. It is almost invariably confined to the nerves supplying the extensors. I have not in any instance met with more than a slight tendency to cramp, in the flexors, and that rarely.

3. By persisting in the vibration of the irritable nerves, their excitability becomes exhausted; and, in proportion as this happens, they obey the mandate of the will, and voluntary movements, in short, locomotive acts, are possible. Not unfrequently, some debility of the nerve-power and depression of energy in the centres follow immediately upon the exhaustion of their irritability; so that, for a few hours, or it may be days, the patient complains of stiffness, and, although he may have lost the jerky feeling in his limbs, he cannot move them more readily. They are heavy and powerless. This, however, quickly passes away, and the cases are found to have made decided progress. The walking is easier and steadier, and control, generally, more direct and precise. At this stage, not earlier, it may be advantageous to percuss over the spines of the vertebræ, with the view of vibrating the nerve-centres. I do not think it is easy, or in many cases possible, to excite the centres except through the afferent nerves; but after the reflex irritability has been reduced, it then often happens that vibrations, which could not at first be propagated along the motor nerves, can be sent from the centres by percussion immediately, or as nearly as possible, over the latter. I believe it will be found that the mechanical vibrations excited in a nerve by percussion, invariably pass in the direction of its normal activity—in the sensory branch, towards the centre; in the motor, towards the periphery. There often seems to be a block, as it were, in the course of a nerve, whether motor or sensory, and, while this lasts, the impulse or impression is diverted, sometimes producing very curious results under vibration by percussion. When the block is broken down by mechanical vibration, the wave again passes in the normal direction. Practically, I do not find much amiss with the sensory nerves. The motor chiefly are at fault.

4. I have collected almost, though perhaps not quite, enough evidence to show that the syphilitic form of locomotor ataxy, or that which undoubtedly follows syphilitic disease, is not a localised, but a local affection. It is a specific inflammatory extension from the penis along the sheaths of the nerves to the proximate centre, and thence by particular fibres to other parts of the cord. The loss of sexual power which occurs, and which is rapidly followed by the indications of deficient nutritive action in the organs of generation, is the immediate consequence of an interruption, more or less considerable, in the nervous connections, consequent on the affection of the nerve-sheaths. The impairment of control over the bladder and the sphincters, causing either diarrhœa or constipation, is contingent on the local progress of the disease, which may generally be traced by the anatomical and physiological communications. It is intensely interesting to work out the details of a case of this class clinically; and no two cases, in my experience, have been alike, although as a rule they have surface-features of typical resemblance. For example, there is nearly always something wrong with one of the ulnar nerves, not as an accident of disseminated sclerosis, but as a specific extension along particular fibres. I am convinced that these cases of syphilitic ataxy ought to be studied apart, and treated as distinct, from the mass of ataxic disease. The two maladies have little, if anything, in common beyond the name; and that is, as regards both, I think, a misnomer. Moreover, the sensory fault is by no means the primary one, as generally supposed.

5. The sclerosis which occurs in the cord in the syphilitic disease, I believe, to be simply inflammatory thickening of a specific character. I do not think we need talk of "gummata" or "disseminated sclerosis." The malady consists in a direct extension of the local disease along the sheaths of particular nervous tracts. Syphilis is, of course, one of the blood-diseases; but I doubt whether syphilitic "ataxy" falls into that category. The interval which occurs between the healing of a chancre and the appearance of ataxic symptoms may be great; but, if we inquire carefully into the history of cases, we find that there have throughout been local symptoms—very slight it may be — of local nerve-disturbance. Nerve vibration, unquestionably, does much for these cases; and among other effects which it produces, and for which it is well to provide, is that, in the course of the treatment, it every now and again revivifies the syphilitic virus, and thus at once renders it possible, and necessary, to treat the malady *de novo*, even in cases of very long standing, where there has been no thought of active syphilitic poison for years. Whether the mechanical vibration of the nerves with their thickened sheaths throws off particles of poisonous exudation which find their way into the current of the blood, as in the breaking down of an old cicatrix which has entangled the virus of rabies, I can only conjecture.

It seems possible that the nerve-fibres, which have been mechanically blocked by the exudative processes of the specific disease may be, as it were, shaken loose from their entanglement, and thus become again vibratile. Perhaps it is in the course of this breaking up of the "block" *debris* are thrown into the circulation. However, the revival of the original specific disease may be explained, it undoubtedly every now and then occurs.

I have thus jotted down briefly, and in no formal sequence, the leading facts which I desire to place on record, and to which I think the attention of the profession ought to be directed. One word only, in conclusion: nerve-vibration by percussion is undoubtedly a most useful adjunct to the ordinary treatment of many maladies, and of especial value in the diagnostic study of disease. It will be monstrous if this method be degraded to the level of a "cure," by placing percussors in the hands of patients, and allowing them to use them for themselves. Great harm will be done in some cases, in others there will be disappointment, and nerve-vibration will be discredited. It is an agency for professional use exclusively; and against its employment by laymen, whether alone or under medical advice, I must most earnestly protest.

GLYCEROBORATES OF CALCIUM AND SODIUM are recommended by LeBon as antiseptics. They are prepared by heating together, with constant stirring, equal parts of borate of calcium or sodium and glycerin, until a drop removed and placed on a glass plate forms a brittle transparent pearl. Upon being poured out to cool the product forms a transparent glassy mass, soluble in alcohol and water, which, being very hydroscopic, is broken into fragments and kept in stoppered bottles. The glyceroborate of sodium is soluble in water in all proportions, and even in dilute solution is said to be a powerful antiseptic, though so non-irritating that a concentrated solution may be applied to the eye and other delicate organs without inconvenience. A simple coating of meat with a varnish of glyceroborate is said to be sufficient for its preservation.—*Phar. Journal and Transactions* (*Compt. rend.*, xcv., 145), *American Journal of Pharmacy.*

THE EFFECT OF DISTENSION OF THE RECTUM ON THE OTHER PELVIC VISCERA. — Read in the Section of Anatomy and Physiology at the Annual Meeting of the British Medical Association in Worcester, August 1882, by J. G. Garson, M. D., Anatomical Assistant, Royal College of Surgeons.

Some years ago, when investigating the result of distension of the rectum in relation to the examination of the abdominal cavity by means of rectal palpation, my attention was attracted to the displacements of the anatomical structures contained in the pelvic cavity produced during the operation. At that time, I only carried my investigations out in the male subject; since then, I have made some further researches on the female, and that as important practical results are yielded by the latter as by the former. I may, perhaps, be permitted to briefly recapitulate the *modus operandi* of the investigations, and the results found in the male by distension of the rectum, though those have already been published.[1] In each case, the rectum was distended with an India-rubber bag, similar in shape to those commonly used for the distension of the os uteri. The bag was introduced into the gut in a collapsed condition, and then distended with water until measured about 24 centimetres in circumference, or roughly, until it was of the circumference of the closed fist. Previously to placing the bag in the rectum, I ascertained that 300 grammes of water were required to distend it to this circumference. The bladder was also filled with about 540 grammes of water. The subject was then frozen, and afterwards bisected longitudinally and vertically. The section showed that the bladder was entirely raised up out of the pelvic cavity, and along with it the peritoneum also, both in front and behind; so that the bladder occupied much the same position that it does in the new-born child. On comparing this section with a normal one, it was found that the distance of the internal orifice of the urethra behind the symphysis pubis remained equal, so that the displacement of the bladder evidently took place in a plane parallel to that of symphysis. The dislocation of the bladder was produced, not by raising of the perinæum, but by stretching of the urethra in its so-called fixed parts. The prostate was stretched to very nearly double its ordinary length, and was flattened. The membranous portion of the urethra was not quite so much stretched, but was considerably longer than usual. The position of the peritoneum in front of the bladder is expressly noteworthy. As a rule, when the bladder is filled to the same extent that it was in our case, the peritoneum is only elevated above the symphysis pubis a few millimetres; but in the section there was, between the upper border of the symphysis pubis and and peritoneum, a clear space of four centimetres—a space which would have admitted of the extraction from the bladder of a very large stone by the suprapubic method, without injury to the peritoneum. The results obtained in this section were confirmed by subsequent observations of a similar kind on other subjects, and in some cases the distance between the symphysis pubis and the peritoneum was greater, being as much as six centimetres in one subject, where the bladder was even filled with a less quantity of water (200 grammes). By varying the quantity of water injected into the bladder and rectum, it was found that the internal orifice of the urethra was not altered as to its distance behind the symphysis, but the distance from the plane of the conjugata vera varied according to the state of distension of the rectum. The depth of the peritoneal pouch behind the bladder is always diminished by distension of the rectum.

In the female, the investigations I have been able to make hitherto have, in some respects, not been so complete as they were in the male, but are sufficient to indicate what are the main changes in the relation of parts.

By various measurements on the dead subject, and from frozen sections by various German anatomists, I have been able to satisfy myself that the highest point of the fundus uteri usually lies about 4.5-5 centimetres below the line of the conjugata vera. The most convenient method is to suppose the subject in the horizontal position, with an incision in the middle line extending to the symphysis pubis through the abdominal wall. Measuring from the level of the skin of the abdominal wall immediately above the upper border of the symphysis, the top of the fundus uteri is found to lie, in a direction downwards and backwards behind the symphysis, on an average at a distance of 11-12 centimetres from the point above indicated. On distending the rectum by means of an India-rubber bag filled with 360 grammes of water, the uterus was raised to within two centimetres of the lower end of the abdominal section;

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[1] Edinburgh Medical Journal, October, 1878; and Archiv, fur Anat. und Physiologie, November 1878.

in other words, it was raised and pushed forwards to the level of the symphysis. As the bag was being filled, the fundus was observed to rise gradually upwards and forwards. In this subject the bladder was empty.

In another subject, of which the bladder contained a small quantity of water, the distance of the fundus from the level of the symphysis was 11.5 centimetres when the rectum was empty; and, on filling the bag with 300 grammes of water the distance was decreased to seven centimetres. The uterus was felt to be quite lax when raised by the distended rectum, and could be moved freely, thus showing that distension of the rectum does not interfere with its mobility. Besides these, I have made several observations, all of which have confirmed the results already narrated; and I have likewise demonstrated the effects of the rectal distension of several gynæcologists.

These observations show, I think, that in the female as well as in the male, distension of the rectum might be used with advantage for placing the uterus within easier reach in cases where operation is resorted to on that organ, or on the ovaries, which are naturally drawn up along with it.

Professor Trendelof Rostock has, I understand, employed distension of the rectum in the male with success in a case of suprapubic lithotomy; as far as I know, however, it has never been utilized in the female.

Removal of Part of the Appendix Vermiformis from a Hernial Sac.—T. T., aged 57, a pork-butcher, accustomed to heavy lifting, a well-nourished and healthy man, had suffered for about twenty years from right inguinal rupture, for which he had worn a truss. On the morning of July 20th, he put on his truss as usual, but, on coming down, found himself in great pain, so that he took off the truss, and immediately a large swelling appeared at the seat of rupture, with pain so acute that he lay down writhing on the floor. He went to bed again, applied hot fomentations, and in the evening, feeling no better, sent for me. I found the right side of the scrotum occupied by a hard mass, oblong, having the appearance of a large inguinal hernia, very hard and firm, but elastic to the touch; no gurgling or movement in it; no impulse on coughing. Pressure and handling the the tumor gave him pain; and the right illiac region was tender and painful. He had not vomited, and some castor-oil taken in the morning had acted during the day. Tongue furred; skin cool; pulse 72. He told me that the hernia had often come down on exertion, with the truss on; but that, until this morning, he had always found it soft, gurgling under the fingers, and easily reduced. I ordered him to continue the fomentation, which comforted him; to take half a grain of extract of belladonna every two hours, with milk and soda-water as nourishment. On July 21st, the night had been restless, with much pain in the right iliac region and in the swelling, which was unchanged, except in being more tender on pressure, and with more œdema of the scrotum. The bowels had acted at 3 A.M.; he had no vomiting; the pulse and skin were natural. The same treatment was continued. On July 22, the night had been bad; with more pain and tenderness in the parts, and a distressed expression of face. There was no vomiting; and no further action of the bowels since 3 A.M. yesterday. The pulse and skin were natural. At 11 A.M. my brother saw the case with me, and we decided to cut down on the hernia; as, although there was an absence of vomiting, and, perhaps, of obstruction, there was evidently a strangulated mass, and commencing peritonitis. Under chloroform, I dissected down to the sac, and on opening it, a little turbid pink serous fluid escaped, of slightly fæculent odor. The sac was occupied by a hard solid substance, of about the size of two large fingers. Of bright red color, and irregular nodulated outline, it looked somewhat like three or four cock's combs strung together, the irregularities being partly covered by a thin layer of recent lymph. There was no bowel in the sac, and the fingers could be passed through the ring without difficulty. Thinking that it was probably a mass of diseased omentum, I cut away as much as could be easily protruded through the wound, the section being through a solid substance, like a fibrous tumor. The part removed was about two and a quarter inches long. The wound was brought together with sutures, and covered with a lint-compress. The cut surface of the substance removed showed the orifice of a tube, about the size of a goosequill, imbedded in a hard dense growth. The corresponding orifice of the upper part of this tube, similarly imbedded, was visible in the wound. On passing a director down the duct in the part removed, and slitting open, I had no doubt that it was the appendix cæci, this being made more certain by finding at its extremity, burried in the mass, a small, sharp, rough piece of bone, which had probably become involved in the duct, and caused [illegible]e inflammatory diseased growth. The man recovered without a bad symptom, all pain being at once relieved. As there was some suppuration, I removed the sutures on the third day. The wound quickly filled by granulation, and in a fortnight was healed. The open end of the appendix is in the cicatrix, its mucous lining protruding and red. Within a few days of the operation, some flatus passed from it occasionally, verifying our diagnosis, and a little fæculent mucous escapes when he moves about freely; but this is easily controlled by a light truss, with a small pad over the orifice of the duct. He is now (August 20th) hard at work again in his employment.—C. R. Thompson, *in British Medical Journal.*

On the Effect of Aseptic Foreign Bodies Lodged in the Eye.—The author thinks his investigations on the recorded cases of injury to the human eye furnish results that correspond well with the theoretic assumptions and experiments on animals.

As regards the involvement of the second eye, he came to the conclusion that in the presence of perfectly aseptic foreign bodies, the second eye is only affected by the harmless form of sympathetic irritation, not with true sympathetic inflammation.—Dr. Landmann, *Græfe's Archiv*, vol. 28, part ii., 1882.

W. W. S.

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THE editor will be happy to receive early intelligence of local events [illegible] general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, October 14th, 1882.

The Week.

CHOLERA.—Recent telegraphic dispatches convey the unwelcome tidings of a severe epidemic of cholera in the East India islands. Sixteen thousand deaths are reported in the Souloo Archipeligo, and four thousand five hundred in Manilla alone between the 14th and 29th of August. Cholera has also prevailed in epidemic form in Japan and recently in China.

Great anxiety and some alarm is felt in most European countries at the unusual tendency of the disease to spread and, in fact, there is good reason to fear an early outbreak of the epidemic in any of the populous cities.

Our State and municipal authorities cannot awake too soon to the possibility of a spread of the disease to our own country. In fact, there is a very great probability that we will suffer from such a visitation and that before many months. Within the memory of man the sanitary condition of Cincinnati has not been worse. There is scarcely a well paved street in the entire city, holes and pitfalls are the rule, and in many of the streets in the lower part of the city these holes have been converted into cesspools and receptacles for decaying garbage and filth of all sorts, the foulness and stench of which is an offense to the nostrils of all who are obliged by necessity to pass through these thoroughfares. A ride in a wheeled vehicle for pleasure through any of the streets of Cincinnati is a vision of the past, no longer is such a thing possible. The keeping of fine turnouts by livery stables has been abandoned; manufacturers of fine buggies and carriages say their former lucrative city trade is dead. This season malarious diseases have prevailed to an unusual extent, nearly all cases being accompanied by diarrhœa or dysentery. As these affections are rarely fatal the mortality rate of the city is not perceptibly affected. The existence of such troubles, coupled with the vile sanitary condition in which we live, presents a broad invitation to the cholera germ to come and hold high carnival in Cincinnati. Here are the conditions for an epidemic of malignant disease. It seems as if nothing short of such a visitation is sufficient to arouse the citizens to a realizing sense of the danger that threatens them and their households.

Charges of criminal neglect and waste of public funds on the part of office holders are no doubt justifiable, but that does not remedy existing evils. Something must be done by the public, and that right soon, if an impending calamity is to be averted.

The patience and forbearance manifested in the past are no longer virtues. The time is fast approaching when it will be necessary to organize a Vigilance Committee, who will assume the reins of government, in order to lift the city out of its slums and give her citizens a purer atmosphere in which to perform their daily lifework.

A RECENT number of the *North American Review* contains an article on the comparative merits of earth-burial and cremation. As our country becomes more densely peopled this question increases in importance, and we as physicians should become thoroughly acquainted with its sanitary bearing. If not only the water which we drink but even the air which we breathe is in danger of contamination from the decaying bodies in our burying grounds, then it is certainly fitting that we should speak and enlighten the people on this subject. The horror with which cremation is generally regarded vanishes, as do most of our ignorant prejudices, as our knowledge of the subject increases. Intelligent physicians have taken the lead in this, as they do generally in all great sanitary reforms. While the general adoption of cremation will doubtless decrease the amount of sickness, yet the sudden stopping of exorbitant funeral expenses will cause such a flood of money in the country that those who are sick can much better afford to pay their doctor's bills.

THE UNION DISTRICT MEDICAL ASSOCIATION will hold its annual meeting at Rushville, Ind., October 26, 1882. Programme: "Readings in Idle Hours," an address, Dr. W. H. Scoby; "Peri-Uterine Hæmatocele," Dr. C. A. L. Reed; "Dysmenorrhœa," Dr. W. D. Hancock; "Bright's Disease," Dr. C. C. Hoover; "Specific Medication," S. C. Thomas; "Typhlitis and Peri-Typhlitis," Dr. F. A. Dickey; "Where shall we send our invalids in winter?" Dr. John Arnold.

DR. BERKLEY, in the *Maryland Medical Journal*, reports a case of tetanus as following vaccination. The anti-vaccination fanatics will doubtless gloat over this bit of news while they will altogether overlook the thousands dying of smallpox.

DRS. LUNSFORD P. YANDELL and L. S. McMurtry have succeeded Drs. Holland and Cottell as editors of the *Louisville Medical News*.

THERE are only nine States without a State Board of Health. Ohio is one of the nine.

THE American Public Health Association meets in Indianapolis, October 17th to 20th.

Miscellany.

THE TEMPORARY TREATMENT OF DENTAL CARIES.—It often happens that physicians are called upon to put an end to the intense suffering occasioned by diseased teeth, the services of a dental practitioner not being at command. Failing to allay the pain, or perhaps declining to undertake what seems the hopeless task, the physician is apt to yield to the patient's importunities, and extract the offending tooth; thus many teeth that might be reclaimed are sacrificed. How to avoid this loss, and yet give relief, is set forth by Dr. Shirley Deakin in the July number of the "Indian Medical Gazette." Suppose a patient to be suffering from caries of a tooth connected with abscess of the gum, capable of opening his mouth only a short distance, on account of swelling of the side of the face; and to have passed sleepless nights, in spite of having applied creasote, carbolic acid, chloroform, etc., without much effect, beyond cauterizing his gums. The tooth being found to have a strong shell, the patient is directed to rinse his mouth well with tepid water (water of the temperature he finds most agreeable). After drying the mouth, absorbent cotton, either in pledgets or twisted into a rope, is introduced around the tooth, so as to separate it from the tongue and the cheek. The cavity is then to be cleaned and dried out, as thoroughly as the tenderness will allow of, by means of a bent probe with some absorbent cotton twisted round its end. In this part of the procedure the great point is to keep the tooth cavity free from saliva, and thoroughly dry. The cavity is now to be filled with a cotton pellet saturated with the following mixture:

℞	Pure phenol (carbolic acid No. 1)	f℥ss.
	Glycerin	♏xx
	Tannic acid	ʒij
	M.	

Instead of this precise quantity of tannic acid, as much of it may be used as the carbolic acid solution will take up, adding it slowly, forming a molasses-like liquid, the action of which, the author says, is quite different from that of either of the chief ingredients used separately. The application is painless, and it quickly desiccates the pulp, rendering it perfectly insensible, without appearing to permeate the surrounding healthy dentine to any great extent. A piece of cotton soaked in a solution of mastich or gum benzoin in ether is applied over the pheno-tannic pellet, to protect it from the action of the saliva. The pledgets of cotton are now removed from about the tooth, and the mouth is well rinsed with water. Should there be any subsequent tenderness, the plug may be changed, two or three times a day at first, and then once in two or three days, until all inflammatory action has subsided. Often but one application is needed. As soon as the patient can bear the necessary manipulation the cavity is to be cleaned out thoroughly and stopped with oxychloride of zinc (*os artificiel*). The author has known this filling to remain serviceable for three or four years.—*New York Medical Journal.*

THE SOY BEAN.—Prof. E. Kinch, writing on the subject of the Soy bean (*Soja hispidi*) in the July number of the *Agricultural Students' Gazette* (Royal Agricultural College, Cirencester), says: This bean, of which there are a dozen or more varieties known in the East, is very largely used as an article of food in Japan and China, where it is manufactured not only into soy, now exported in considerable quantities to Europe, but also into bean cheese and other forms of food. The soy bean, in its proximate composition, approaches more nearly to animal food than any other known vegetable production, being singularly rich in fat and in albuminoids, and it is therefore a valuable adjunct to the food of the almost vegetarian Japanese. Of late years, especially since the Vienna International Exhibition, many efforts have been made to acclimatise this bean in various parts of the European continent, chiefly in Hungary and Germany. France and Italy have also attempted it, and some of the experiments have been fairly successful. *Nature* states that Professor Koch is trying to grow some of the varieties in the botanic garden at Cirencester, and though our climate is probably too uncertain, and the temperature often too low, for most of the varieties to attain perfection, still, if any of them could be acclimatised, a valuable leguminous cross would be added to our present list. A detailed analysis is given of the bean as grown in different countries, of several of the foods made from it, of its straw, which is a useful fodder, and of the ash of the bean and straw.—*British Medical Journal.*

THE ODOR OF IODOFORM. — Having tried nearly all the devices that have been suggested for mitigating or disguising the odor of iodoform, and found them all of little or no avail, we have lately come nearer to the object by using oil of eucalyptus, according to the following formula:

℞. Pulv. iodoform., ℥ ss.
Ol. eucalypti, f. ʒ sss.
Vaselin., ℥ iv.
M. fiat unguentum.

We do not remember to have seen any account of the oil having been used for this purpose by others. The ointment thus prepared is not without odor, but the odor is not that of iodoform.

THE story of a noted Philadelphia laryngologist, who, on examining a girl with a relaxed uvula and mucous membrane of the throat, concluded that the cause of the difficulty was some uterine trouble, and for which he advised her to place herself under the care of her family physician. Her reply was: "Doctor, if I had known that you could see all the way down, I should not have come to you."—*Mich. Med. News.*

M. MAREY, after a series of experiments, has succeeded, by means of photographs, in reproducing the mechanism of the different movements executed by man and birds. He arrived at this result by taking a series of instantaneous photographs of quickly succeeding attitudes (one-tenth of a second). The whole series describes faithfully the details of the mechanism.

STATE BOARDS OF HEALTH.—Only nine States are now without a State board of health. These are the following: Florida, Kansas, Maine, Missouri, Nebraska, Nevada, Ohio, Pennsylvania, and Vermont.—Dr. Gihon, in *American Medical Association.*

IN Providence, R. I., with a population of 104,000, not a single death has occurred from small-pox since 1873. The reason is given as "general and careful vaccination."

Bibliography.

THE MEDICAL DIGEST OR BUSY PRACTITIONER'S VADE MECUM.[1]

The author of this comprehensive and valuable book of reference prefaces the volume by the statement that "It professes to afford a means of ready information regarding such discoveries, new doctrines and different methods of treatment in each department of medical science as are likely to be of interest to the practitioner." We find the Digest contains references to everything that has appeared in all the medical journals published in Great Britain during the past thirty-five years, also the English hospital reports and English medical books. The collection and putting in systematic order this reference to a vast amount of literature has been the work of more than an ordinary lifetime. While making no pretensions to the completeness of "The Index Medicus of the Surgeon General's Library," it is valuable and unique as the labor of one man.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON GENERAL'S OFFICE, U.S. ARMY.[2]

Every American physician has most abundant reason for taking an individual pride in the special work done in the Surgeon General's Office. There is gathered the largest medical library in the world, the indexing of which alone is an immense labor. This third volume includes 9,043 author-titles, representing 10,076 volumes and 7,386 pamphlets; also 8,572 subject titles of separate books and pamphlets, and 28,846 titles of articles in periodicals. There are also catalogued 4,335 medical portraits. The mechanical work is in the same elegant style of the preceding volumes.

THE PHYSICIAN HIMSELF.[3]

But a few months have passed since we called the attention of the profession to the first edition of this excellent work by Dr. Cathell. We predicted for it a large sale and the exhaustion of a first edition with the early appearance of a second confirms the correctness of that prediction. The work has been revised, divided into chapters and to it has been added considerable new material. In the present form the volume contains so many practical hints as to our proper conduct toward patients and the profession, which cannot be found in any work on ethics, that it will prove invaluable to its possessor.

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[1] Being a means of readily acquiring information upon the principal contributions to medical science during the past thirty-five years. By Richard Neale, M.D., London. Second edition. Ledger Smith & Co.

[2] Volume III. Cholecyanin—Dzondi. Washington.

[3] The Physician Himself and What He should Add to Scientific Attainments. By D. W. Cathell, M.D., Baltimore, Md. Second edition. Carefully revised. Published by Cushings & Bailey, 262 West Baltimore street, Baltimore. Sent by mail to any address on receipt of $1 25.

Original Communications.

THE ORDER OF DISORDER IN MENTAL DISEASE.

By O. EVERTS, M.D., Superintendent of the Cincinnati Sanitarium.

Knowledge of disorder presupposes knowledge of order, in mental as well as in other diseases.

Common consent and the statutes ascribe to the medical profession such knowledge, and assign to it the duty of determining questions of mental as well as of physical conditions.

To diagnose mental disorder with as much skill and accuracy as is attainable by the accomplished practitioner in detecting pathological conditions of the body is practicable, and, in view of the generous confidence of the people and the law, an effort to become so qualified should be regarded as a duty by every highminded student and practitioner of medicine.

Great obstacles have for centuries stood in the way of such attainment, among which have been certain metaphysical assumptions and scholastic dogmas respecting the constitution of man, and the relation of mind to bodily organs.

It has been almost universally asserted, and as generally accepted if not really believed, that the human mind is an entity, of exceptional and miraculous origin and destination, dwelling, as it were, temporarily within the body, like an ancient Baron in his castle, surrounded, sheltered and served by the organs of the body, but holding no more intimate intercourse, and nothing in common with them.

Mental philosophy, as taught in the schools since the days of Aristotle, by its methods, has confused rather than instructed, and repelled rather than attracted students of psychology.

These obstacles have now, for the most part, been removed by science, and are no longer in the way of him who adopts facts as the basis of his theories, and is content to pursue knowledge within the limitations of the knowable, assured, inferentially, that whatever truth lies without such limits must be in harmony with the truths that lie within, and nearest to him.

The intelligent physician, thus limited and thus content, finds himself compelled to study mental phenomena as special phases of the manifestation of the force of life, inseperable from material mechanism and the sensuous conditions of being and existence, the perpetual integration and disintegration of material forms, with corresponding involution and evolution of active forces.

Having adopted this view of the subject, then, the more one can simplify the physiology of mind without discarding facts, the more simple will become to him the study of mental disease.

There is no other method so effectual for this purpose as that of studying the natural history of a man with reference to the evolution of his mind.

Excluding the embryonic period of man's being and existence, the only psychical manifestation of which his organization is capable, at birth, is an exceedingly limited degree of consciousness, but sufficient to recognize gross peripheral and visceral sensations, and therefore the primary and fundamental element of a sound mind.

Presuming the conditions of life, in relation to this being, now to be favorable, and everything to progress in the ordinary way, we shall notice, by and by, indications of increasing psychical capacity and activity. Consciousness has become more sensitive and attentive, and not only takes notice of a greater variety of sensations, but begins to discriminate the pleasureable from the painful, and to express its recognition by reflex actions, and we already recognize the bud of memory.

There is no evidence yet, however, of what is commonly regarded and designated as mind; no thought; no imagination; nor can anyone predict, at this stage of development, that this being ever will be capable of thinking; whether by an arrest of development it may not prove to be an imbecile; or by some slight excess become a Bacon or a Bonaparte.

But supposing nutrition, assimilation and excitation to have progressed favorably; that the organs of the body have not only been increasing in size, but that certain changes have also been taking place in their structure—and memory, as a corresponding psychical development manifests the increased capacity and complexity of consciousness; and we now see swelling into prominence the precursor of imagination, feeling.

Still we have not reached the plane of thought. Still we must wait for further growth of bodily organs. The prophecy is with us, but not the fulfillment. It is indeed a "strange eventful history."

Many of the lower animals reach this stage of evolution: some surpass it. They have thus reached the limitations of their structural capacity. Not so this man. A little further on—after a little more growth and a little more experience, these same organs enlarged by nutrition in conformity with their own established type of being—and trained by use, activity and effort—will become capable of, not only integrating simple into complex sensations, as at first, or complex sensations into memories, and memories into feelings, in the proper order of mental evolution, but will be enabled to convert all of these into still higher and more complex form of consciousness—imaginations—the highest and most complex function of which matter, so far as we know, is capable.

We have now reached the plane of thought, of ideation, in the upper ranges of which may be observed processes of specialisation and generalisation of mental images—the decomposition and recomposition of ideal objects, ratioscination, and the birth of mental concepts, each reflecting features of an innumerable ancestry, and its descent through sensuous perceptions.

These then are the more distinguishable psychical elements of the sound mind, stated in the order of their development, viz.: consciousness, memory, feeling, imagination or ideation.

Let us now avoid the common error of regarding these elements as so many distinct powers or faculties of mind, a loose confederacy of psychical sovereignties, which may at will secede and war one with another—and think of them only as they are, representations of degrees of psychical evolution, which are discrete and at the same time continuous.

Let us think of them also, the lowest and the highest, as manifestation of force and activities, associated with corresponding evolutions of material mechanism, to which such force and activity are peculiar, viz.: the brain and its appendages; never forgetting that each of these degrees or planes of development has a lower and upper surface, by which it becomes continuous with that which is below it or above it, and between which are numberless gradations of itself.

And now, having thus briefly sketched the order of the human mind, we may turn our attention to its disorder.

As mental order consists and is expressive of progressive activities, so mental disorder consists of and expresses retrogressive activities.

Order is evolution, the movements of which are from lower to higher, from simplicity to complexity, etc. Disorder is involution, the movements of which are from higher to lower; from complexity to simplicity. Where evolution ends involution begins; there is no state of rest in nature's economy. These aphorisms are true of generals and of particulars.

All pathological conditions are expressions of degenerative activities.

Disorder of mind is as intimately associated with, and as indicative of structural conditions, as is order of mind, the conditions indicated being opposite.

If these propositions are all true, it may be confidently asserted that the development of mental disorder must be in conformity with the laws of degradation, or involution, and begins in the highest element of mind which may have been at any given time evolved, in any given case.

The order, therefore, of mental disorder, should be: First, disorder of imagination or ideation; Second, disorder of feeling; Third, disorder of memory; Fourth and last, disorder of consciousness.

That such a precedence and succedence of mental disorder is in accordance with facts may be known from the natural history of a man during the period of his mental decadence.

I do not expect this assertion to pass unchallenged. It is taught, and generally believed, that not only in the natural decadence of mind in man (a recognized involution), but in adventitious disease affecting the mind, special disorders of feeling, or memory, if not of consciousness, are often manifested, while the higher activities of ideation continue unimpaired.

To combat this proposition is the object of this paper.

Such a perception of the facts and phenomena of mental disorder indicates, as I think, but partial and unscientific observation.

There is great need, at the present time, of more careful study and more accurate analysis of mental operations.

We need to distinguish more nicely the disorders of pathological conditions from original peculiarities, associated with peculiarities of structures; and other factors pertinent to a given case; as of heredity; including nationality, parentage, etc. Education, including learning, occupation, etc. Religious beliefs, associations, habits of life, etc., etc.

We need, also, to estimate more carefully the value of words, and, use them with greater accuracy than we do, usually, in matters of such moment.

For example, a man has a bolt of steel driven through one hemisphere of his brain, by a blast of powder, with loss of substance. He recovers consciousness, remembers, feels, and talks coherently, in a limited way, in answer to simple interrogations: whereupon the attending observer announces the wonderful fact, that the man has escaped death, with his intellect entirely unimpaired.

Estimating "intellect" and "unimpaired" at their correct value, does any well informed physiologist believe this report? He should not if he does. It is not true.

Neither is it true, because a man is still capable of thinking, and expressing thought, so far correctly as to convey ordinary information on many subjects intelligently, and yet exhibits disorder of feeling, unusual hilarity or despondency, confidence or suspicion, love or hate, interest or indifference, without ordinary or adequate cause, that therefore such a man's ideational capacity and activity are not, and have not been, primarily, in the least disturbed.

Nor is it conclusive evidence, because a man of thinking capacity and habit manifests, perhaps detects, himself, a defect of memory, sometimes quite embarassing, yet continues to think without particularly noticeable defects of ideation, indistinctness of imagery, or great hesitation of speech, that, therefore, he is suffering a disorder of memory of a primary and limited character, the plane of ideation being unaffected.

In our observation of the phenomena of mental disorder, it is well to bear in mind the fact that the range of ideational capacity and activity between the lowest and highest degrees of development, within the limits of ordinarily recognized mental integrity, is so great, that a mind of superior capacity may suffer very considerable degradation and still pass inspection as sound.

It may still be true that a "majority of mental diseases commence (apparently) with a state of profound emotional perversion," and that "the great majority of mental diseases are manifested, not by senseless discourse and extreme acts, but by marked changes of disposition;" and yet, the primary mental lesion, to which such marked changes are referable, may be, defect of ideation, beginning in the final plane and utmost development of mechanism by which ideation is made possible.

Profound emotion, *if one have sufficient natural provocation*, is not an evidence of mental disease. Marked changes of disposition, which may be reasonably accounted for, are not indicative of mental disorder.

Emotional perversion, and marked change of disposition, *without cause*, other than physical disease, and contrary to all reasonable expectation of the person manifesting them, persistently uninfluenced by evidence or argument, are elements of insanity.

But the fact that such perversion, and changes of feeling are *unreasonable* and contrary to expectation (based upon knowledge of the person suffering them), and persistent against all evidence and argument, is indicative, to me, of an impaired condition of *ideation*, which has thus become incapable of integrating feeling into imaginations, or ideas, otherwise than in such morbid moulds. That which is superior and regnant must be first impaired before the inferior can become dominant and assert its supremacy.

It may be true, also, that the primary physical disorder, ultimately affecting mental activities does not begin even in the brain, but may be located in organs quite remote from the cerebral matrix of ideas; but this does not invalidate the theory suggested.

The root of a tree may be the primary seat of disease, and decay may take place in the heart of the trunk; but the leaves and the fruit, the higher and more complex organs of vegetable evolution, are the first to really feel and manifest the injury done, and the process going on.

Physical pain is but seldom compliained of as an accompaniment of mental disorder. The most profound and immedicinable suffering of melancholia is mental agony. The sufferer remembers, and so far as she is capable of considering other persons or circumstances than herself and her own condition, her feelings are not essentially changed. But her imaginations are all painful—every thought a pang. Her mind is full of images, each one more forbidding and foreboding of evil than another. She cannot think otherwise than with such images or ideas.

Watch the natural history of this disease. This pain does not cease until the function of ideation is fully restored, or further impaired; so far impaired indeed as to constitute dementia, an absence of mind, an inability to think.

How is it in mania? (the only other elementary division of mental disorder which should be recognized; all manifestations of disorder being but phases or results of primary depression or exaltation), do we not have in maniacal conditions, the most marked perversions of affection, and the profoundest disturbances of feeling, with loss of memory often? Yet there can be no question in these cases of the primary disorder of ideation.

If then, as I have intimated, all other phases of mental disorder resulting from disease are but modifications of mania or melancholia, or residuary conditions, of these, what is there more, by way of testimony, to be considered?

We have been hearing lately, I know, of a new form of mental disorder, called by the distinguished author who has the honor of introducing it to our notice, "Reasoning Mania." But the description given of the disorder fails to indicate any necessary association of the psychical phenomena with physical disease, and presents us with a condensed history only, of natural obliquity and perversity of mental activities, made prominent by circumstances, which are not, in their occurrence or succession, either surprising or abnormal. The author simply condenses the psychical history of a great criminal, pronounces him insane, and gives a name to the disorder to suit his own convenience.

But such eccentricities of authorship cannot invalidate the generalization of undeniable facts, and unavoidable inferences; and if it be true as affirmed, that all physiological processes represent evolution, and all pathological processes represent involution; that where evolution ceases involution begins; and that the order of mental evolution is from consciousness to ideation; then it follows, as a matter of fact, which cannot be otherwise, that the higher functions or activities which are manifested as mind, cannot be maintained in a state of integrity while all or any of the lower activities are in a state of disorder or arrest.

It also follows, and this is the *res sesta* of the whole matter, that the affirmation of the existence of such mental disorders as have been designated "moral insanity," "emotional or affective insanity," "insanity of feeling and conduct," etc., etc., without primary and contemporary impairment of ideation, or "intellect proper" as it is sometimes called, is an error; being contrary to the order of nature and the testimony of science.

What is moral? and what is intellectual? *Intellect*, comprising all of the arbitrary scholastic subdivisions of judgment, will, imagination, etc., is the aggregate and ultimate of psychical evolution. It is an integration of all precedent perceptions, an engrossment of all manner of mental imagery, effected by the higher activities of supreme functions, differentiated, harmonized and combined, and ultimated as ideas.

Morality, psychically considered, is a perception of that which is right. It is, however, an intellectual perception—an integration of experiences, memories and feelings, formulated as judgments, by which alone we determine for ourselves that which is right and that which is wrong. There is no such thing in nature as a moral sense independent of general or common consciousness, nor of a moral perception other than of an intellectual character.

What does an infant know of right or wrong? or an idiot of justice?

The higher the intellectual capacity and general attainment of a people, at any given time, the higher will be its standard and practice of morality.

All philosophy which makes a generic distinction, actually or inferentially, between morals and intelligence, imagination and reason, judgement and will, requires revision.

Will, or the mental force and activity which ultimates in action, is the sum total of mental operations next precedent to the act. Every conscious act is preceded by a conscious will, and is in accordance with will—the imagination, reason, judgment, of the moment,—whether wise or otherwise.

A highwayman demands my money or my life. I deliver my purse. Is it against my judgment that I do so? No. Is it against my will? Has my will been overpowered, paralyzed or dethroned? No. Without will there cannot be action. What then is the true state of affairs psychologically considered? I deliver my purse *in accordance with and by virtue of my will*, which is also my judgment (considering the pistol at my head), made up of integrations of imaginations, feelings and memories, by a supreme effort of all my mental force.

Let the curious analyze such a will, and be amazed at the psychical elements which enter into it, and see how impracticable it is to distinguish, and ascribe to special faculties of mind special activities.

Mind is a unitary phenomenon, no matter what the degree of its development, whether of animals or man; and its operations are characteristic of the plane of evolution to which it belongs, and the environments to which it is and has been subjected, as manifested both by its order and its disorder.

ARTIFICIAL PURULENT OPHTHALMIA PRODUCED BY MEANS OF JEQUIRITY.

By W. W. Seely, M.D.

(Points taken from *Annales d'Oculistique.*)

Everyone knows that *inoculation* for the relief of inveterate pannus and granulations has been resorted to now and then for thirty years. It is a therapeutic measure that out - Shakespeares Shakespeare, when he says:

"*Diseases desperate grown, by desperate appliances must be relieved.*"

It has proved efficacious for inveterate granulations and pannus, but has never been resorted to except when the cornea was covered by pannus crassus, and usually only when both corneæ are thus covered owing to the great risks to this structure from ulceration and destruction.

I presume very few have been deterred from resorting to it on account of repugnance to the kind of material used, but from the risks the corneæ run, owing to the violence of the inflammation. Other means, such as moist heat, etc., have been resorted to, to bring about a purulent state, with rather indifferent success.

DeWecker has lately been experimenting with an infusion of Jequirity and formulates his experience as follows:

1st, That the infusion of Jequirity is a reliable means for promptly exciting purulent ophthalmia, or rather, croupal, by bathing the inverted lids with it, and by applying compresses wet with the infusion for some minutes. In most patients the turgid conjunctiva becomes covered with a croupal membrane similar to that met with in the purulent ophthalmia sometimes in new born children.

2d, That the use of this infusion of the seed, never painful, furnishes a medium for exciting purulency of the conjuntiva as prompt as inoculation, with the advantage that we do not need to use matter taken from an individual in regard to whose constitution we are never perfectly informed.

3d, That a more or less moderate use of Jequirity allows of a much better adaptation of the remedy to the amount of purulency we desire to excite, a thing not possible with inoculation.

Thus, an insufficient amount of artificial purulency excited by jequirity may be supplemented by a renewal of the application.

Commenting on the remedy the Doctor says, that it had appeared useful to describe this remedy[1] especially to those of his confreres who have numerous cases of granulations to treat. [The Doctor's clinique is visited by what might be termed the aristocratic poor.] He claims that his results have been surprising. Aside from inoculation the author knows of no other means for promptly exciting a true purulent conjunctivitis. Inoculation being a process so dreaded on account of its violence it has only been resorted to as a dernier resort, but in this remedy, whose action is so readily controlable, the author thinks that we have a fitting medium for promptly exciting a purulency for the relief of conjunctival diphtheria, granulations, inveterate pannus, etc. A prolonged experience the author thinks will alone indicate to what extent the purulence produced by jequirity will be susceptible of acting well or ill in ulcerous affections of the cornea.

However, jequiritic ophthalmia has seemed to have exercised a favorable influence over the ulcerous affections furnished by trachomatous eyes, and none of the danger so much feared from purulent ophthalmia by inoculation.

Note.—Jequirity (Abrus precatorius) belongs to the luguminous family; it is a shrub of tropical Africa and Asia that has been transplanted in America (South). Its root is used in all these countries for the same purpose as the liquorice (réglisse) and its coral reed seed, blackened by the sun, very glistening and hard are used to make chaplets and necklaces, such as are sold in the orient.

A CASE OF ASCARIDES LUMBRICOIDES AND PERITONITIS.

By J. Taylor Stewart, M.D., Berry Station, Ky.

A little girl, eight years old, with the following brief history:

Three days preceding my visit she presented symptoms denotive of worms. She had received the popular santonine treatment. The medicine was administered by her father and in liberal quantities.

I saw her on the fourth day of her illness, and was greatly surprised to find her dying from diffused peritonitis. Before and after death several worms escaped from her mouth and nose.

Autopsy revealed a collection of worms in the peritoneal cavity. They were knotted together in a wonderful manner.

The point of perforation was readily found, as one of the worms was engaged in the opening. Just below this and in the intestine a very large collection of the same kind was found.

Sharing with those who ascribe to santonine dangerous therapeutic properties, I apprehend that the fatal issue in this case may be attributed to the intoxicating influence of this drug over the worms, exciting them to violent action, resulting

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(1) The grains of Jequirity can be obtained of Rigand et Gusart, 8 Rue Vivienne, or at the pharmacy of Robinet, 55 Rue du Cherchemidi. These grain are very hard and their grinding requires special care.

in inflammatory softening of the intestinal tunics, and subsequent communication between the intestine and peritoneum.

In many instances I have observed the irritating and unsatisfactory manner in which santonine exerts its anthelmintic action.

We have in our possession more potential and much less dangerous vermifugal agents.

Clinical Lectures.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

Reported by T. R. Coffman, M.D.

VARICOCELE—CASTRATION THE BEST REMEDY.

Mr. McN. is a farmer, has been annoyed for some time past by a condition in the scrotum known as varicocele. This is an enlarged, dilated and tortuous mass of veins, imparting the feeling of a "bag of worms" within the scrotum. Usually varicocele occurs upon the left side, the testicle hangs lower, is more dependent and the veins are larger than on the right side. There are anatomical as well as physical reasons for this difference. The left spermatic vein enters the left renal vein at a right angle, and has no valve to guard against downward pressure, hence its lifting power is greatly abridged. The right spermatic vein is supplied with valves in its course and does not enter the renal vein on that side, but empties direct into the vena cava, it is also guarded by a valve at its junction. Pressure of any kind upon the spermatic vessels when it interferes with venous return may produce varicocele. The disease often occurs in young men, being brought about by venereal excesses. In the case before you it follows a trauma—a blow upon the testicle.

The discomfort complained of from this tumor is a dull, heavy aching, pain, running up to the groin along the cord and extends to the back, associated is a sensation of weight and dragging in the scrotum. These sufferings are mitigated by a recumbent posture, the patient is also relieved to some extent by the use of a suspensory bandage.

There is usually not much trouble in differentiating between varicocele and other scrotal tumors. Hydrocele has a regular outline, is elastic to the touch, and is translucent by transmitted light. Sarcocele is firm and globular. Scirrhus is hard and knotty and associated with a cachexia. Hernia travels from the ring downwards, pushing the testicle before it, it imparts to the sense of touch a doughy feel. Varicocele is an elongated tumor, irregular in shape, feeling like a "bag of worms," this symptom is nearly if not quite pathognomonic.

TREATMENT.

These cases are seldom seen in the early stage, when attention to general health, bathing, etc., and the application of a suspensory bandage would not only relieve suffering but prevent the advance, the enlargement, the elongation of the veins. Young men are, however, very sensitive upon such matters. They seldom consult a physician until the veins are very large and the testicle atrophied.

This patient comes before us with a scrotum literally full of enlarged and tortuous veins with an atrophied, a blighted testicle. What is the best treatment? No disease of equal grade has had more devices suggested and adopted for relief than varicocele. No plan has yet been generally adopted, failures have been frequent. The operations may be grouped under three heads:

1. Obliteration of veins.
2. Ablation of scrotum.
3. Castration.

For the obliteration of the veins these vessels have been ligated with a great variety of ligatures, such as silk, metallic and animal. These ligatures have been applied subcutaneously, and again by incising the scrotum, exposing the veins before the application. The actual cautery has been drafted for the destruction of these tortuous venous canals, again electricity has been tried for the same purpose. One surgeon applies the ligatures firmly so as to obliterate at once the vessels, another proposes to do the same work gradually. Two objections have been urged and they are radical. First, in many cases phlebitis has followed and life lost; second, in cases where no inflammation has followed, ligation under all forms has failed to obliterate the veins—to obliterate them so as to relieve the suffering testicle from blood pressure. It may be said then that where obliteration of veins is not dangerous, no damage following the practice, it is unsatisfactory, it is inefficient.

ABLATION OF SCROTUM.

The object of this is to so abridge the scrotum as to pocket the testicle and shorten the veins. I have succeeded with this occasionally but I sometimes have had disaster and now only adopt it by the patient's selection. What real objections can be urged? The skin, in spite of all care, will, in some cases, slough and leave the testicle exposed. This is a serious matter, may result in loss of the organ, or, on account of the large surface exposed, pyæmia or tetanus may follow. When either of these giants appear I need not suggest to you the danger.

CASTRATION.

After a considerable experience I am decidedly of opinion that removal of the testicle, although apparently a radical operation, offers the best results. Ligation, as I have said, fails to obliterate the vessels. No surgeon would have temerity enough to include all the veins, those left soon enlarge and the scrotum is full of blood, and all the annoying emasculatory symptoms return.

There is one set of symptoms which have not been mentioned. I refer to a train of phenomena of the most distressing character, they are both moral and physical, direct and reflex; these especially pertain to those who attribute the affection to their own habits. A gloom settles over the poor invalid, he attributes every unpleasant sensation, every pain directly to this abnormality; this mental condition is reflected upon his system generally, he loses his appetite, is restless and sleepless; disturbed with exhausting dreams, he arises in the morning unrefreshed and wretched. An occasional nocturnal emission fills him with apprehension and fears of impotence. Under castration these distressing symptoms all disappear, plumpness takes the place of attenuated muscles, the skin loses its cold clamminess and becomes dry and warm, the palpitating heart becomes steady, the countenance assumes cheerfulness, the whole aspect of the man has changed, invalidism gives place to health.

In discussing this operation the question of sexual ability need not be entertained, the loss of a shrunken testicle like this is no loss—it is in fact a gain—the remaining organ with the balance of the system will be strengthened, its ability for procreation re-inforced.

This patient expected a less radical operation, hence shrinks from castration to-day, upon reflection he will doubtless adopt it.

The surgeon may conscientiously assure the sufferer that while castration offers relief most certainly, it is not more hazardous to life than less radical measures.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of October 9th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*
W. D. WENNING, M.D., *Secretary*

The Order of Disorder in Mental Disease.

Dr. O. Evarts read an essay on this subject which will be found printed in full on page 385 of this issue.

DISCUSSION.

Dr. Zenner remarked that the essayist, in his most excellent paper, fully dwelt on the subject of mental physiology. We all are aware of the fact that growth of intellect and moral nature go hand in hand, and the greatest advance in the study of insanity consists in the appreciation of the fact that mental derangements follow certain laws of development.

However, the education of the moral sense is seen more in the growth of races than individuals, that is, the further advanced a nation is in intellectual capacity the higher will be its moral sense. An animal, for instance, merely perceives what affects its grosser senses, constituting the simplest elementary perception, whilst a child, for example, finds that its pleasures depend on its association with others. Any single individual's growths intellectually is not affected by a natural evolution in himself, but formed by others.

Moral insanity is generally conceded to be attended with a defect of intellect, usually described as weak-mindedness. A person will commit a crime in such a state without being able to give any sufficient reason therefor. Thus Westphal brought before his hearers the case of a servant girl that had stolen a child. There was no reason for committing such a theft. A careful examinatton of the perpetrator revealed a considerable mental defect—a want of complete development of intelligence. This constitutes one form of moral insanity. Maudsley calls attention to another form, where a person feels a sudden impulse to commit a crime, as homicide, suicide, etc., and though knowing it to be wrong can not control himself.

Dr. Brown regarded the subject of moral insanity as a myth. It is, in fact, difficult to establish the exact difference between sanity and insanity of mind. We are all more or less insane on one subject or the other. Every one of us becomes so imbued with his own special subject of study that he becomes a crank on that one point. It is a mistake to make the highest development of intellect also the guage of morality. The greatest criminals have often the finest intellect. Gamblers, for instance, have their intellectual faculties so finely educated as to see through their finger's ends. The brain in a child is molded by its parents, especially the mother. If our brains were not so differently molded in our youth, we would see, think, and act alike. It is irrational to regard the brain as a thought secreting organ and classify it with the liver, spleen, and other viscera, as some would have us do. If such were the case where would will-power come in. The will is only a matter of education.

Dr. Ravogli said that in most ancient times philosophers regarded the brain as the organ by means of which a person feels, thinks and acts. Man has a will which we must consider either as absolutely or relatively free. It is not absolutely free because it is subordinate to the disposition of the nerve cells of the brain. Kant did not regard man as free in his will. In order to show the difference anatomically in the brains of criminals from those of other persons, Prof. Benedict, of Vienna, compared the appearance of the collected brains of criminals with these organs in different animals. In the frontal eminence of the human brain he showed three protuberances whilst in the bear, fox, and wolf, there were four. In a normal brain, under these protuberances are found slight accentuations with a fissure showing some likeness to the anterior cornua of the fox and bear. Some of these criminals had these fissures very deep and joined together, whilst in other normal brains there were no anastomoses of these different depressions. The speaker would not contend that the brains of these criminals were formed entirely different from regular laws, but considered it sufficient proof that the will is subordinate to the anatomical structures of the brain. Consequently the will can not be said to be absolutely but only relatively free.

Dr. Zenner said the views of Benedict had not been corroborated by other observers. For the sake of public safety it would be even dangerous to promulgate any such views. Morality comes from instruction, association, etc. It is this which forms our character. True, there may be found at times some defect in certain individuals which would render them less competent of judging between right and wrong, but the lives of noted criminals have proven that their criminality more generally depended upon education.

Dr. Ravogli stated in reply that everybody that had given any attention to the subject would concede that the brain of an intelligent individual is widely different from that of an uneducated person. In the higher races the large brain fills the entire cranial vault so as to cover the cerebellum, whilst in the lower races the smaller brain is uncovered. He, for one, was entirely persuaded that the formation of the brain has much to do with the action of the individual. He did not intend to intimate that this difference was so minute as as to form an excuse for the commision of ordinary vices, which anyone might become guilty of, but that it most certainly existed in the perpetrators of really ferocious crimes. We frequently see in families well brought up, this tendency to crime which is almost impossible to eradicate. Education has much influence in correcting such a tendency. Socrates confessed that he was inclined to steal and it was only by dint of the utmost exertion that he restrained himself from committing this crime.

Dr. Ransohoff observed that the discussion turned on the point whether or not we could be held responsible for our deeds. He considered Dr. Ravogli correct in his views. The ancients regarded the brain as a gland; we, as physicians, regard the brain as a material object as well as the other organs of the body, and as these, equally subject to a change in structure. That there must be some connection between crime and the formation of the brain is shown by the fact that crime comes in families. If it develops in an individual it becomes greater and greater, and the structure of the brain undergoes corresponding anatomical changes. We see the opposite also in families. Just as well as there is a history in certain families of notorious criminals we find a record of great minds in other families, as is instanced in several illustrious examples in our own country. A question arises, if a man is always responsible for what he does, even if he commits no crime. We will take for instance, the case of an old man eighty years of age. He has always had the full possession of his mental faculties. His business qualifications have always been excellent though he was at times eccentric. He has shown no aberration of mind and yet in his last will he suddenly cuts off one of his children. With all this, however, his brain may show no anatomical defect.

As a rule, however, when there is any decided deviation from the normal we may assume a change in anatomical construction.

Dr. Evarts in concluding the discussion said that the statement had been made that the mind is a secretion of the brain, in the same sense as other secretory organs. He would, instead of this, suggest the mind as an elimination of force, or, still better, a liberation of electricity than of matter. Just on account of such illustrations as the above we physicians have been accused of materialism. Force represents in nature all what our spiritualistic friends call spiritualism. Mind is associated with matter as its companion. As to responsibility we are very material. One man by himself has no responsibility, but as soon as another appears on the scene the privileges of the first become limited; this limitation increasing the more society increases. Therefore, as society increases responsibility of the individual becomes greater. Man has therefore only an objective position in society.

Selections.

MEDICINE.

Tabes Dorsalis in Early Childhood.—Friederiech, Seeligmuller, and others in their classic works on this disease have called attention to the sclerosis of the posterior columns of the cord which occasionally occurs in childhood and presents the characteristic picture of the tabes dorsalis so frequently met in adults. Friedreich gave to this the name of "hereditary ataxia." A case presenting many of the striking features of this affection, yet occurring in a child, is reported at length by Dr. G. Leubuscher in the *Berliner Klinische Wochenschrift*, No. 39, 1882. In his description of the disease Friedreich states as his reason for giving it the name hereditary, the fact that as far as his own observation extended in each instance several members of the family were similarly affected. Puberty was the period at which the first symptoms began to manifest themselves. The lack of co-ordinative power almost always first manifests itself in the lower extremities, extending later to the upper. Not until after these latter have shown themselves to be affected do ataxic disturbances of speech or nystagmus occur. The most striking symptoms in those cases are said by these authors to be the utter absence or the late, onset of disturbances of sensibility. The tendon-reflex was absent in all cases in which examination was made, with the exception of the one recorded by Seeligmuller.

The case reported by the author of this paper was that of a little boy three and one-half years of age whose parents stated that for six weeks he had been unable to walk. The symptoms he presented were so striking that a careful inquiry into the family and personal history was at once instituted. The parents were healthy and no history of any nervous affection could be ilicited from either side of the family. Three sisters, respectively eight and one-half, five, and one and one-quarter years of age were likewise perfectly well. Two or three months previous to this call, the boy had received upon falling, a slight incised wound over the knee, which very rapidly healed. Within a few weeks the parents began to observe some gradually increasing disturbances of locomotion, which so increased that in a very short time he was unable to move without assistance, and then he lost even that small power. He simply fell down when placed upon his feet. He never complained of pain, and he appeared as intelligent as ever. This condition had lasted six weeks when he was first brought to the writer. At this time there was no disturbance of the functions of the bladder or rectum.

There was no squint or other usual disturbance. The father said he spoke somewhat differently from usual, but the boy had always stammered some in talking.

The boy appeared rather small for one of his age. There were no symptoms of rachitis. The tongue could be protruded and freely moved in all directions. The movements of the arms and hands were apparently normal, but on attempting to seize objects there was a slight degree of incoordination. The joints of the lower extremities were perfectly free. There was slight atrophy of the muscles of both legs. When held up and not resting any weight upon the feet, the legs were observed to be very unsteady. The knee-reflex was absent. Nothing special observed in the skin.

The patient was unable to either stand or move alone. He could move either foot alone, place one over the other, etc., but in all attempts at standing or walking presented all the well-known symptoms of tabes in the adult. Sensation of taste and sensitiveness to pain were perfectly unimpaired. As further investigation was made, it was found that in addition to the stuttering, which was normal to him, there were at times ataxic disturbances of speech.

All the organs of the body were found to be normal.

In this case, says the writer, we have a perfectly healthy child, suddenly affected by locomotor disturbances, which increase until walking becomes impossible. This inability is ataxic in character. We also find beginning ataxia in the upper extremities, absence of tendon-reflex and a peculiar disturbance of speech, while sensibility to pain and the functions of the bladder and rectum remain intact.

We have before us, then, a picture corresponding in the main with that of Friedreich. It differs from his in that it developed at a very early age and ran an exceedingly rapid course. The absence of certain symptoms generally believed to be characteristic, depends probably upon the brief time the disease was pursuing its course. In Friedreich's cases, nystagmus never came on until after the cases had lasted at least a year. This, too, was the only unhealthy member of an otherwise hearty family.

No cause can be assigned for the occurrence of the disease in this patient. The slight wound on the knee must be considered as an accidental coincidence.

The patient was treated by a weak ascending galvanic current. To this treatment must be attributed a part at least of his improvement during the next four weeks (up to the time of this report.) He was now able to stand about one-half minute without support with his eyes open. Locomotion (with assistance) was considerably better. The ataxic symptoms were still, however, very distinct. No improvement had as yet been observed in the ataxia of the upper extremities, or of the speech.

J. S. H.

Erythema and its Treatment. — From a lecture of Dr. Vidal in St. Louis Hospital, Paris:

Vidal, following the ideas of Bazin, classes the erythemas in two series: The one proceeding from internal causes; the other, from external. Among the former he comprehends the *erythema caloricum*, caused by the action of the sun on the skin; *erythema intertrigo* produced by the rubbing of the clothing, or of two cutaneous surfaces together; *erythema paratrimum*, which arises from the caustic action of the urine in patients condemned to bed for a long time and which after awhile causes bed-sores; and, lastly, he considers the *erythema pernion* from cold.

For these erythemas the treatment is limited to the local bathing with water and vinegar, or with a solution of sugar of lead; or, if painful from excoriations, cold cream will be of benefit. Astringent washes, as a solution of tannin, are used in intertrigo. It is necessary to carefully separate the surfaces of the skin which are in contact and if the surfaces are moist the use of drying powders, especially chalk or oxide of zinc, is of great benefit.

In cases of *erythema paratrinum* the starch powder must be used to absorb the moisture. For *erythema pernion* on the hands he recommends the hot water bath, after which the rubbing with spirits of camphor; if there is ulceration he prescribes the following salve:

℞. Ung. diachylon, 26 pts.
" minius, 2.2 "
" cinabar, 1.5 "
M. ft. inj., and washing with a solution of chloral.

Among the erythemas from external causes he describes those produced by the use of some medicines, as copaiba, cubebs, chloral, salicylic acid, bromide and iodide of potash. For the treatment he uses warm water baths containing some starch and vinegar and after the bath starch applications.

He pays attention to the habits of the patients, and especially of their ordinary food and drink, avoiding exciting substances.

He speaks of the *erythema scarlatinosum* and *erythema nodosum*. He considers the *erythema nodosum* as a symptom of the arthritic diathesis, and therefore the necessity of treating the general morbid condition as well as local applications of lead wash.—*Révista de Ciencias Medicas.*

DR. RAVOGLI.

How far may the Alcohols be Used in the Treatment of Pneumonia?—In the treatment of either croupous or catarrhal pneumonia, alcohol must, by all means, be used with caution.

There are, for example, cases of pneumonia where the employment of alcohol to prevent paralysis of the heart, not only disturbs the regular course of the disease but has a directly injurious tendency.

This is to be noticed

1. In all light cases of pneumonia. By this we mean those cases in which the temperature

does not rise above 40° C., where the dyspnœa is not very great, where the pulse is strong and the pulmonary trouble in general shows no tendency to rapidly increase. The employment of alcohol in such cases can only have a dangerous effect, for through the increased action of the heart more blood is thrown to the lung and the disease is increased.

2. The above treatment of pneumonia is further contraindicated in people who are otherwise strong and healthy, who have not passed forty-five years of age. (In children and young people alcohol exerts no favorable influence on the course of the disease.

3. In those cases of pneumonia where there is a valvular lesion of the heart alcohol is to be avoided; for through the increased action of the heart collapse is sooner to be expected.

On the other hand, indications for the alcohol treatment are—

1. In those patients in whom there is thought to be a degeneration of the heart muscle, but when there is no valvular lesion. This is mostly the case in chronic alcohol drinkers in whom an unexpected paralysis of the heart may occur at any time.

2. In those who have passed fifty years of age, if they possess no heart lesion.

3. In the so called hypostatic pneumonia where the appeal impulse is in position, for the purpose of supplying the sound as well as the diseased lung with fresh healthy blood, and to protect the sound parts of the organ from stasis and the diseased part from the further consequences of the stasis which has already occurred.

4. In every pneumonia, if only the heart is not affected with a lesion of the valves, after the crisis has passed, so as through the increased impulse to the circulation, to more rapidly promote the absorption of the exudation.

5. Finally, alcohol can not be avoided without regard to the condition of the heart in persons having a tendency towards collapse, where paralysis of the heart or œdema of the lungs may occur at any moment.

When, however, œdema is already present, then alcohol is no longer of use, for by this means will the patient, who is now without hope, be unnecessarily maintained in the death agony.

The thoughtless, unrestricted treatment of every case of pneumonia with alcohol is not only unscientific, but indeed blameable. — *Medizinal Zeitung*.

A. B. T.

LESION OF THE ISLAND OF REIL.—An interesting case is given by Bourneville and Bonnaire, in which a man, aged thirty-four, was suddenly seized with left hemiplegia (*Archives de Neurol.*, No. 8). The attack took place twenty years before his admission into Bicetre. Six years after the paralytic seizure the patient became subject to epileptic attacks. When the man came under observation he was suffering from left hemiplegia, with contracture; the arm and the leg were a good deal wasted, and there was a perforating ulcer on the sole of the left foot. The tendon reflexes on the paralyzed side were much exaggerated, and there was spinal trepidation. There was no disorder of sensibility, but the intellect was much impaired. The necropsy showed, on the right side, atrophy of the posterior part of the third frontal convolution, of the two ascending convolutions of the globule of the gyrus angularis, and of the entire island of Reil. The first and posterior parts of the second temporo-sphenoidal convolution were also involved. The island of Reil was replaced by a kind of gelatinous membrane of reddish color. The parts above named were simply atrophied, and presented no change of color. The right corpus striatum and optic thalamus were considerably reduced in volume. Secondary descending degeneration was visible to the naked eye in various regions through which the pyramidal tract passed.—*Med. Record.*

A CASE OF CANITIES, OR RAPID DECOLORATION OF THE HAIR, IN THE COURSE OF VIOLENT NEURALGIA.—Dr. Raymond reports a case in the *Revue de Medecine* of which the following is an abstract. Mme. D., 38 years of age, of medium size, possessed an abundant head of hair, whose black color contrasted strongly with a very fair skin. She had always been of good health, and, though of nervous temperament, had never had any hysterical manifestation. In July, 1881, she grieved very much over a separation of her son, who was sent away to college, and, although her general health did not suffer otherwise, she could not sleep at night during the month of July and part of August; she then went to the sea-side, where the insomnia was overcome. Last January, after a violent mental shock, caused by learning the result of some unfortunate investments, she became agitated, restless, and soon lost her appetite and sleep; finally she suffered from neuralgic pains in various parts of the body. It is important to add that at the moment she received the bad news the menstrual epoch had begun, but the flow was immediately suspended.

Admitted to the Hospital July 27th, she was very weak, and suffered from general neuralgic pains, which were worse, however, in the head, the abdomen, in front of the shoulders, and in the tibias. Nothing especially noteworthy was observed upon examination, except that in portions of the face and elsewhere there were tender spots (of Valleix), and in the ovarian region pressure on each side was painful. During the next few days the pains became much worse, in spite of morphia, bromide of potassium, quinine, etc. On the 31st, the neuralgia of the head was atrocious, morphia was perfectly powerless, and the patient was very restless, crying out, and suffering greatly.

At two o'clock in the morning the pains were at the maximum. At this time the hair still had its normal color. In the morning, at seven o'clock, Mme. D. was found with her hair almost completely decolorized. At the sides of the head, and behind, the black color was partly preserved, but it was not so with the other regions. The top of the head showed hairs which for the most part were of a bright red color; they appeared as if burnt or scorched; of these there were a great many, but the others were completely blanched, in front and at the sides. While the hair of the head was thus rapidly whitened as the result of the severe suffering from neuralgia, that of other regions of the body was not affected at all. In spite of the discoloration of the hair, the headache persisted just as violently as before. She took during the next eight hours ten grammes of potassium bromide, and by five o'clock in the evening, she was better, and was able to sleep, although she had not slept before for many nights. Afterwards the pain did not return, but the hair rapidly fell out, so that in a fortnight very few hairs were left upon her head, these being laterally and in the occipital region. She now is obliged to wear a perruque.

[Although questioned by Haller and denied by Kaposi, the truth of instances similar to the above cannot longer be doubted, especially since the publication of the classical paper by Charcot on this subject (*Gaz. Hebdomad.*, 1861). The cases of Sir Thomas Moore and Marie Antoinette, who became gray in a single night, are well known: they belong to history. Sir James Paget in his lectures refers to another remarkable case, in which a lady subject to nervous headaches sometimes found on the following morning the hair white in patches, as if powdered. This change would occur in a single night. but a few days later the hair gradually regained its color. —TRANS.]—*Phil. Med. Times.*

TREATMENT OF EXCESSIVE SWEATING.—In the Michigan *Medical News*, Dr. Currie says that for over thirty years he has used the following prescription, without a single failure, in sweats from whatever cause: Alcohol, Oj, sulphate of quinine, ʒj. Wet a small sponge with it and bathe the body and limbs, a small surface at a time, care being taken not to expose the body to a draught of air in doing it. In one case, a neighboring physician was poisoned while dressing a mortified finger. He suffered untold misery, and was drenched with perspiration for a number of days, and his life despaired of. When he saw him he ordered him to be bathed immediately in the above solution, and that this be repeated once in two hours. The third application stopped all perspiration, and convalesence began at once.

HYSTERO-EPILEPSY IN A BOY. — M. Bourneville has put on record, in the *Progress Medical* for August 26, a second case of hystero-epilepsy in a boy. The child was 13 years of age when he came under observation. The following points in his history seem worthy of note:

His parents were first cousins. His father was subject to migraine in early life; his mother had spasmodic wry neck in infancy; one of her sisters was idiotic (?) The patient was the eldest child. He seems to have been always an excitable child and easily frightened, subject to night terrors. His hysterical attacks commenced in the month of February, 1880, about a month before he came under observation. The first one came on while he was at work at school, with virtigo, and, after lasting two hours, was terminated by singing, crying, and laughter. The senses of hearing, sight, taste, and smell were decidedly less acute on the left than on the right side, and the same may be said of the common sensibility of his buccal mucous membrane and conjunctiva. His intellectual faculties seemed unimpaired, and he was said to be gentle and affectionate. There was no history of masturbation. On examination, several different areas were found, over which pressure was painful (*zones hystérogènes*). They were situated as follows:

1. "*Clou hysterique*," at a small spot, two centimetres in front of the vertex.
2. "*Rachialgie*," over the spinous processes of the fifth, sixth, and seventh dorsal vertebræ.
3. Symmetrical spots on each side of the fifth intercostal space, midway between the nipple and the axillary line.
4. A painful spot in the seventh left intercostal space, about five centimetres from the spine.
5. A spot over the manubrium sterni.
6. Symmetrical spots over the loins.
7. A spot almost over the centre of the iliac fossæ, corresponding to the "ovarian" region.

That on the left side is the most marked. The attacks recurred at regular intervals, and lasted from one to two hours. They were preceded by an aura, which consisted of a sensation of a ball rising from the penis to the epigastrium, and thence to the level of the larynx. This was followed by the "*clou hysterique*," and then he lost consciousness. The attacks were characterized by a preliminary stage of rigidity of unusually short duration, succeeded by a clonic period, which was on the other hand of unusual length, comprising varied contortions and positional attitudes. During this period he would try, by different methods, to injure himself or those around him. The attack concluded he sometimes had hallucinations of sight. He also presented a hemi-anæsthesia, at one time on the left side, at another on the right. The patient was cured, (apparently in a permanent manner) by the assiduous use of cold douche-baths. The case may be noted as a typical one, both of "hystero-epilepsy" and of the way in which the physician's office is magnified in such disorders by our French *confreres.—Med. Times and Gazette.*

ON THE RELATIONS BETWEEN ASTHMA AND MUCOUS POLYPS OF THE NOSE.—M. Joal has published in the *Archives Générales de Médecine*, an interesting article upon a point but little known, concerning the etiology of asthma. From a perusal of this article it would appear that the relations which may exist between a chronic alteration seated in the nasal fossæ and the appearance of attacks of nervous dyspnœa, as manifestations of cause and effect, have been observed or suspected by but a few physicians.

The author details eleven cases, personal to himself, in which he has observed the disappearance of the asthamatic attacks immediately after removal of the polyps. These results he argues, demonstrate the pathological role which must be accorded mucous polyps of the nose, in the production of attacks of dyspnœa. In some cases, the suffocative attacks disappeared, only to return as soon as the nasal respiration became affected by the renewal of the polypus.

The relation of these cases occupy the first part of the article. In the second, the author seeks the primary cause. He shows us that his patients were all of marked gouty constitution, and that the mucous polyps, which may be innocent in some individuals, play, in others, a role, occasional without doubt, but powerful, in the causation of nervous respiratory troubles.

The third part is devoted to the physiological pathology of the subject. The author concludes that the polyps, by their pressure, irritate the nasal mucous membrane, determining, at intervals, a reflex action, which culminates in spasm of the muscles of respiration. The author believes that as a general rule, thorough examination of the nasal fossæ should be made in all patients suffering from asthma, and presenting at the same time, evidence of pituitary troubles. If polyps exist they should be removed, preferably, by the galvano-cautery. The operation is painless, without hemorrhage, and the vegetations do not recur.

The author sums up as follows:

1. Mucous polyps of the nose sometimes occasion dyspnœa of asthmatic character.
2. This symptom is observed chiefly in gouty subjects.
3. It is generally caused by a reflex action, consecutive to irritation of the nasal mucous membrane.
4. The excitement may originate in the sensitive filaments of the pneumogastric, which line the pharyngeal and bronchial mucous membrane.
5. Asthma may be developed by catarrhal and emphysematous lesions attributable to polyps of the nose.
6. Asthmatic symptoms disappear after removal of the polyps.—*American Journal of Medical Sciences.*

THE URINE IN INFECTIOUS DISEASES.—A series of researches, chiefly by Selmi, Brouardel, Boutmy, and Gauthies, have shown that peculiar alkaloids, to which the term ptomaines" has been given, develop in dead animal tissues which are in process of putrefaction. They present similar chemical reactions to the alkaloids which are found in poisonous fungi. Bouchard, according to the *Revue Médicale*, has suggested that, since the ptomaines only appear in tissues which are charged with microscopic fungi, it is permissible to suppose that the cadaveric alkaloids are merely the products of these "disassimilation" of vegetable organisms. Further, if bacteria living in the dead animal tissues produce bacteria, it is possible that the same bacteria, growing in a living organism, may produce substances analogous to ptomaines. Bacteria seem to appear in the living dody in all infectious diseases. Hence M. Bouchard has endeavored to ascertain whether, during the course of infectious diseases in the human subject, any trace of these alkaloids can be found in the urine. His observations were made on cases of typhoid fever, "infectious pneumonia," and "infectious pleurisy," whatever the latter disease may be. All were dieted and no medicine containing alkaloids were given to them; and the urine was carefully preserved from putrefaction. An analysis showed that they contained alkaloids having all the characters of ptomaines. A series of normal urines examined, and specimens from patients suffering from pulmonary emphysema, valvular disease of the heart, presented no trace of alkaloids. The conclusion, however, is not beyond question, since M. Pouchet has affirmed that the presence of alkaloids may be constantly demonstrated in normal urine.—*Lancet.*

A CASE OF A HIGH TEMPERATURE IN A HEALTHY YOUNG LADY.—Dr. D. Julio Ortiz Coffigny, of Matanzas, relates in the *Chronica Medico Quirurgica*, of Havana (May, 1882), a very curious phenomenon of a young lady, twenty years old, apparently enjoying in every respect good health, whose temperature is consequently several degrees above the normal.

This fact was first noticed by the young lady herself in January, 1881. One day while nursing her sick sister, she had the idea to take her own temperature, and found it as high as 38 degrees centigrade (100.1° F.) She notified it to Dr. Llorach, who was attending her sister, and who observed the same temperature.

Lately Dr. Ortiz Coffigny took a great interest in this case, and the following is the result of his observations during eight consecutive days:

	Temperature under the axilla	Temp. in mouth.	Pulse	Resp.
At [illegible] a.m.	38.7 Cent.(101.6F)	39. (102.2F)	100	24
At 1 p.m.	39.5 Cent.(103.1F)	39.8 (103.6F)	120	28
At 5 p.m.	39. Cent.(102.2F)	39.2 (102.5F)	100	24
At 9 p.m.	39. Cent.(102.2F)	39.2 (102.5F)	100	24

As these ciphers have been found constant during the eight days, there is every reason to believe that this febrile temperature is a normal physiological fact in that young lady.

This observation, gentlemen, is of the greatest importance; it reminds me of another observation of Pasteur, and suggests some ideas, on which I want to call your attention.

While the great scientist was making his experiments on carbuncle, and preparing the cultures for its inoculation, one of his most bitter opponents, whose name I do not remember now, told him, that he would never be able to inoculate carbuncle in chickens. In fact Pasteur tried the inoculation in these animals, and no carbuncle was produced. Puzzled at such a negative result, he wanted to know the cause; he had the idea of taking their temperature, and found that it was several degrees higher than the other animals. He soon argued, that this must have been the cause. By some ingenious means he reduced the temperature of the chicken to the level of the other animals, on which he was experimenting; he inoculated then the virus, and the carbuncle appeared.

Here is a fact of a high temperature causing in the chicken a peculiar idiosyncrasy, that gives it immunity from carbuncle—there is another poison (atropiæ, if I am not mistaken) that does not affect the chicken, probably due to the same cause.

Now let us apply this principle to the human race, and let me ask you, what is idiosyncrasy? what is the cause of this idiosyncrasy, or predisposition, of which we are talking every day in our practice?

Why a contagious disease, *e.g.*, scarlet fever, attacks the different members of the same family in different ways? While one is stricken by the poison with such a violence as to die sometimes in twenty-four hours, another has a slight fever with a little rash curable in a few days, and another gets nothing?

The cause of all this may perhaps be found in the peculiar temperatures of each individual.

Ninety-eight and a half degrees Fahrenheit or thirty-seven centigrade is acknowledged to be the normal temperature of man. Are we sure that this cipher always represents the normal temperature of every person? The fact just related of the young lady of Cuba proves, that there are some exceptions; and these exceptions may be more frequent than we suppose.

My own temperature is fully nine-tenths of a degree above the normal; it was ninety-nine and two-tenths (in the mouth) yesterday before my dinner. During the epidemic of 1878, I took several times my temperature, and always was above one hundred.

These exceptions ought to be known by the physician. In this age of ours, of progress and scientific investigation, it should be advisable that every physician have the record of the normal temperature of all his clients, in order to compare them, when they are sick; by this way we may perhaps be able to resolve the problem of idiosyncrasies. We are discovering every day new organisms as the causes of diseases; but after all the parasite, the germ, the bacterium, the bacilli, does not constitute the disease, it only becomes disease when it finds in the soil, in the blood, the proper elements for its developments, and for this work temperature must play the most important part.—*New Orleans Med. and Surgical Journal.*

Treatment of Malignant Pustule with the Interstitial Injections of Carbolic Acid.

Dr. Rodrique Viforcos treats this disease by injections of carbolic acid deep in the affected tissues, in order to destroy the pustule and produce an acute inflammation capable of removing the diseased parts. He holds this method to be more convenient than incisions, applications of hot irons or caustic potash. He states that in all cases he has had good results.—*Revista de Ciencias Medicas.* DR. RAVOGLI.

Cure of a Case of Hysterical Contraction.—At the meeting of the Societe de Biologie, M. Chantemesse reported the case of a young girl affected with hysterical contraction, which persisted nine months, and which was cured by the application of metallic plates, according to the method of Burg. The patient had been subject to headache since she was ten years old. When the contraction manifested itself she had attained the age of fifteen; at this period the headache disappeared altogether. In the month of November she was wounded in the left hand by a piece of broken glass, and immediately stiffness of the muscles set in; and this contraction resisted every means directed against it for many months. In July last the patient entered the Hospital Beaujon, under the care of M. Fernet, who on examination found there was hemianæsthesia of the whole left side, and the already-named contraction of the muscles of the forearm. A powerful magnet was applied to the affected side, and recourse was had to the apposition of different metals—gold, silver, tin, platina, zinc, and copper—but there was no change in the contraction, and the sensibility was in no way improved. At last about eight days ago, a bracelet composed of steel plates was placed around the forearm, and the next day the whole of the contraction had disappeared, but the anæsthesia was in no way modified. The bracelet cannot be taken off for some time, as the affection would return within forty-eight hours. The election of the metal on the muscular element, the contraction that it caused to disappear, leaving unaltered the special and general sensibility is a phenomenon curious to observe.—*Medical Press.*

Cerebral Localization in the Sensory Region.—Theodore Petrina (*Zeit. f. Heilk.*, ii.) reports six cases of his own in which there was disturbance of sensation in the limbs which had lost their motor power, where also after death there was found only lesion of the cortex of comparatively old date, such that the influence of shock or pressure could be excluded, and the symptoms could be referred to the lesion. Where sensation was affected the lesions were limited to a narrow region. The lower part of Broca's convolution, the convolutions of the isle underlying this, the lower third of the anterior central convolution, the anterior upper surface of the first temporal convolution, the upper third of both central convolutions, and the superior parietal lobule, that is, all the convolutions in the psychomotor zone around the fisssure of Rolando.

The loss of sensation from lesion of these localities consisted in a more or less decided weakening of the sense of pressure, or of several of these. The sense of taste, smell, and color was not affected. These "cortical" anæsthesias differ in this limitation of loss of sensation from those hemianæsthesias which follow a destruction of the posterior third of the porterior limb of the inner capsule (the *carrefour sensitif* of Charcot).

Cortical lesions of the occipital convolutions give rise to no sensory paralysis. He concludes that the most anterior portions of the frontal convolutions and the surface of the entire occipital lobe are not the seat of sensory centres.—*Boston Medical and Surgical Journal.*

Amyloid Kidney without Albuminuria.—Dr. J. Straus (*L'Union Médical*) has published a paper on the above subject, and submits the following conclusions: 1. In certain cases of amyloid degeneration of the kidneys albuminuria may be constantly absent until death. 2. The absence of albuminuria is due, on the one hand, to the absence of a deep lesion (interstitial or epithelial) of the kidney, and, on the other hand, to a special localization of the amyloid degeneration. This, in such cases, bears chiefly upon the *vasa recta* of the medullary substance, and implicates in a minor degree the glomerular vessels. 3.

From a clinical point of view, if in a phthisic or an inveterate syphilitic, or a subject of chronic osseous suppuration, etc., we find enlargement of the spleen and of the liver, but *without albuminuria*, we are not justified on this account in rejecting the idea of amyloid degeneration of the viscera, nor even in absolutely denying amyloid degeneration of the kidneys. 4. Those authors who date the beginning of amyloid degeneration in the economy from the moment at which they observe the presence of albumen in the urine, commit a double error, (*a*) because amyloid degeneration is far from beginning always by invading the kidneys; on the contrary, the spleen and the liver are habitually the first to be attacked; (*b*) because the kidney itself may be suffering from amyloid degeneration without albuminuria being present. It is then necessary to mistrust calculations by which it has been sought to fix the possible duration of life in subjects afflicted with amyloid cachexia, by making this date from the first appearance of albuminuria.—*Medical Record.*

SURGERY.

Recovery from Shot-Wound of the Stomach—Case of Dr. R. Beverly Cole.—Nearly thirty years have elapsed since Dr. R. Beverly Cole had his stomach perforated by a pistol ball. His case was reported soon afterwards in an Eastern journal, but so long a time has elapsed that few persons now living possess any knowledge of it. It has lately been revived in a communication to *British Medical Journal* by Dr. J. Marion Sims. As the case is an extraordinary one, and as Dr. Cole is well known on the Pacific Coast, we have thought the reproduction of it in this journal would be acceptable to our readers. It is presented in accordance with his own narration, and the senior editor was perfectly cognizant of all the facts when they transpired:

Dr. R. Beverly Cole, at the age of twenty-five, resided in San Francisco, where he had suffered from repeated attacks of intermittent fever. When just recovering from one af these, he left his house, on June 3, 1854, without taking breakfast; his stomach was therefore empty. While in the act of packing his trunk, preparatory to making a visit to the country, a Colt's six inch revolver (old pattern) fell from his inside breast coat pocket, the body being bent over the trunk at the time, and the hammer of the pistol striking the edge of the trunk as it fell, the cap was exploded, and the ball entered the breast—the muzzle not being more than eight inches from the body. He did not fall, but, raising himself up, he tore open his vest and shirt, and saw that he was wounded. Syncope occurring, a friend caught and laid him on a sofa near by. When consciousness returned, he found himself surrounded by a number of his medical friends, among whom were Drs. C. S. Tripler and H. S. Hewitt, of the United States Army, and Drs. Valentine Mott, Jr., A. B. Stout and Charles Bertody. He was totally blind, but recognized them all by their voices; he heard Dr. Tripler say: "Never mind the ball; it can be sought for at any future time. We must bring about reaction." Soon after this he was suddenly seized with an indescribable pressure in the rectum, and a desire to defecate. Morphia was administed, sinapisms were applied to the extremities, and ammonia was given in very minute quantities—minute, for fear of its escaping through the gastric wound into the peritoneal cavity. As reaction came on, the sensation in the rectum increased till he vomited nearly a wash-hand bowlful of blood, black and partially coagulated. It was estimated by the attending physicians to be from a quart to a half-gallon, or more. This gave some relief. But the rectal pain and tenesmus were not completely relieved till he was brought fully under the influence of morphia. As he lay on his back, his clothing was all cut away without turning him on either side, and he was placed in bed. The collapse was very complete, and several hours elapsed before reaction was fully established. During all this time he could not see but from the conversation of the surgeons and from the frequency with which they examined the cardiac region, he inferred that death was imminent. The sinapisms were forgotten, and were not removed for four or five hours, and they produced sloughing ulcers, which were nearly twelve months in healing. When reaction was fully established, Dr. Tripler passed the end of the little finger along the track of the ball, through the conjoined cartilages of the seventh and eighth ribs—an inch and a half to the left of the median line of the ensiform cartilage. He then passed a probe along it into the stomach. The lodgment of the ball was not discovered for two weeks or more later. It was then found between the eleventh and twelfth ribs on the back, two inches to the left of the median line. This showed that the course of the ball was directly through the body — the difference between the parellels of entrance and exit being due to the difference between the bent and the erect posture.

For three weeks he was nourished by the rectum. Beef tea was thus given every three hours; at first one ounce, then two, then three, and finally four onces. During this time a small quantity of beef tea was given by the mouth, but it produced such severe pain, as it entered the stomach, that it was not soon repeated. Small lumps of ice were allowed to quench the thrist produced by the morphia, which was given in half-grain doses three or four times a day, or whenever needed. On the twelfth day the bowels were moved by enema. On the twenty-first day he was removed to his own home. He then began to suffer from severe paroxysms of the pain in the back, which were so intense as to obstruct respiration. They continued without abatement for three weeks. Dr. Tripler then removed the ball, and they ceased. He was confined to bed six weeks. When he got up it was discovered that the left shoulder was lower than the right, the result of a constrained position while in bed; and there was a dragging sensation in the gastric region, not only disagreeable, but quite painful, as if the stomach had formed unnatural adhesions. On account of these disabilities, he was compelled to go on crutches for two years before the body attained its natural erect manner of carriage.

The posterior wound closed in a few days after the removal of the ball; but the anterior wound did not close for four years, which was doubtless due to the injury of the cartilages, which are always tardy in reparation. For many years an ordinarily hearty meal (in consequence of adhesions between the stomach and contiguous parts) produced a dragging, uneasy sensation, which rendered life uncomfortable.

Recovery was eventually complete; and no one now would suspect that he had ever been the subject of such a serious accident. A peculiar feature of the case was total loss of vision for three days, during which time he could not distinguish daylight. There can be no doubt that the ball in this case perforated the stomach, below the lesser curvature. As the ball was very small, the wound of the stomach was likewise very small; hence there was less probability of gastric effusion than if the ball had been larger. But recovery was chiefly due to the fact that the stomach was quite empty at the time of the accident. It it had been partially full there would have been effusion into the peritoneal cavity, followed by certain death.—*Pacific Med. and Surg. Journal.*

DIAGNOSIS OF ABDOMINAL TUMORS.—Lo Spallanzani has recently published a lecture under the name of Prof. Baccelli on the diagnosis of tumors of the abdomen. We give the following *résumé* of the principal diagnostic points:

Before all, it must be determined whether the tumor is situated within or external to the peritoneal cavity. Extraperitoneal tumors are distinguished by a clear and tympanitic resonance due to the presence of the intestinal mass behind them, it should, however, be remembered that this sign may fail when the intestines are filled with feces, when there is a concomitant ascites, when the tumor attains such a size that it presses on all parts of the abdominal walls, or when the tumor is in contact with some voluminous intraperitoneal organ, such as the liver.

On the other hand, the tympanitic note may be present in the case of tumors of the liver or spleen, if they are covered by intestinal loops.

Observation of the movements of the tumor during inspiration and expiration may give very precise information.

Thus, the intraperitoneal tumor is depressed in inspiration and elevated in expiration. Retroperitoneal tumors, if exploration by the touch is possible, seem to slip under the hand.

Tumors of the abdominal walls, on the other hand, are elevated and depressad in a line perpendicular to the axis of the body because in inspiration the distance between the anterior and posterior walls of the abdomen is increased. An intraperitoneal tumor, however, may remain immovable if it has formed adhesions to the anterior abdominal wall or with the pelvis, or if the diaphragm or lungs are inactive.

A retroperitoneal tumor can also be movable if displaced, as a floating kidney; or if it is adherent to an intraperitoneal organ.

Backward movements of the tumor will be prevented by adhesions to the anterior abdominal wall. If the tumor is small and slightly movable, or independent of the respiratory movements, its change of position can be readily recognized from the exterior.

It is indispensable to study the tumor in connection with the region in which it is found; thus it is known that the kidney may be displaced in front of the liver, and so simulate a hepatic tumor. So also a pleural exudation may be mistaken for hypertrophy of the liver.

Tumors of the epigastrium may depend upon the stomach, peritoneal exudation consecutive to some ulcerative process, or upon echinococcus or cancer of the left lobe of the liver.

Tumors of the umbilical region, when not implicating the organs normally in this region, may depend upon a depressed pylorus, on a displaced spleen or kidney, or on a urinary calculus closed in the urachus.

Tumors of the hypogastric region may be caused by the distended bladder, the gravid uterus, ovarian or uterine tumors, or encysted exudations.

Tumors of the iliac and inguinal fossæ can be produced by fecal matter in the cæcum, by neoplasms of the intestine, by abscess, local peritonitis, or affections of the vermiform appendix.

It is also necessary to examine the form of the abdomen to see whether the normal outline has been departed from.

Splenic tumors, in elevating the costal arcs, raise the abdominal walls and give the abdomen a pyriform appearance, with the point directed towards the pubis.

Tumors of the kidney, on the other hand, pressing on the ribs, give the abdomen a very irregular outline.

In the case of tumors of the hypochrondrium the umbilicus approaches the pubis and is elongated.

In tumors which are developed deep in the abdomen the umbilicus may be slightly depressed and stretched laterally, and the median raphé slightly deviated to the side on which the tumor is present.

The dilitation of the peri umbilical veins, the so-called *head of Madusa*, is a sign of obstructed circulation of the portal vein, and is very well marked in central tumors of the liver.

The other dilatations of the epigastric veins indicate interference with the circulation in the inferior vena cava, although obstructed portal circulation may also cause them. It is also necessary to consider displacements of other organs.

In tumors of the spleen the cardiac ventricles maintain their normal position; in tumors of the kidney the stomach is completely displaced; and in large tumors the stomach may form an arc of a circle, its concavity corresponding to the convexity of the internal border of the tumor.

In tumors of the kidney the colon preserves its anatomical position; but when the tumors are very large it may be pushed behind or flattened.

The lower limit of the thoracic cavity must be always accurately limited by percussion, as in tumors of the hypochondrium, which cause tension on the diaphragm, the complemental pleural angle nearly always disappears. This is also usually the case of tumors of the kidney.

It is also to be noticed that in movable kidneys, in the standing position or even in the dorsal decubitus, a hollow can be observed in the corresponding lumbar region, and the kidney can not be felt by palpation.—*L'Abeille Méd.*, July 3, 1882.—*American Journal of Medical Sciences.*

THE TREATMENT OF HYDRARTHROSES.—Prof. Volkman (*Centralblatt f. Chirurgie*, August 19), in reference to a discussion upon this subject at the Societe de Chirurgie, observes that in chronic effusion into the joints, he has several hundred times performed puncture of the joints, and followed it up by washing out the cavity with a solution of carbolic acid of from three to five per cent., without having ever met with any accident, or even the least disturbance, after this manipulation. As a general rule, from ten to fifteen glass syringes full, capable of holding each 45 grammes, had to be alternately employed, and the fluid allowed to run away, before this was discharged in a clear condition, showing that the synovial fluid, which the added carbolic acid easily renders turbid, was entirely removed out, and the joint thoroughly washed out. In order that the carbolic acid might exert its influence on every part of the surface of the capsule, the joint was then moderately filled by the injection of from one to three syringes full, and then submitted for a short time to movements of flexion and extension. A larger quantity of the solution than this was never left in the joints, and even the slightest symptoms of carbolic intoxication have never been observed. After the washing-out was finished, the limb was always surrounded by a Lister; dressing, and kept immovable for some time on a splint. When the effusion has not been of too old a date, recovery has always followed a single puncture and washing-out, although, as a rule, firm bandaging is required for the prevention of relapse, for diminishing the thickening of the capsule, etc. In bad cases, in which there has been great extension of the capsule and ligaments, due to large and old hydrarthroses, the punctures and washing-out have to be repeated two, three, even four times, at intervals of several weeks, before the capsule contracts sufficiently. Iodine injections, which Prof. Volkmann formerly employed frequently, he has now discontinued, as possessing no advantage, and occasionally giving rise to suppuration of the joint. In the worst cases, with great distension and thickening of the capsule, great villous formation, large fibrinous coagula, dropsy, riziform bodies, or *genitis fibrinosa*, without fluid exudation, Prof. Volkmann always makes a double incision into the joint, and introduces two very short (sufficiently long, however, to completely enter the joint) drainage-tubes, which, after carefully washing out the joint, are left in as long as any secretions issue through them. He is unable to say how often he has performed this operation, which has been by far the most frequently executed on the knee, but certainly more than a hundred times. Even in these cases only disturbances of a very slight nature were sometimes met with, although the procedure was employed in bad cases of disease of the joints when great dropsical effusion was present. The general conclusion, therefore, is that both puncturing and washing-out the joint, and the double incision and drainage, with the aid of antiseptics, may be declared to be operations unattended with danger and followed by satisfactory results. How thoroughly Prof. Volkmann has been convinced of this may be inferred from the fact that for a series of years he allowed Prof. Rancke to attach a manometer to the trocar, in order to institute experiments on the intra-articular pressure in the living man. None of these experiments did the slightest harm to the persons on whom they were performed; and it is to be much regretted that, owing to its having appeared only in the form of a Latin *Habilitationschrift*, this distinguished work of Rancke, in which he arrives at the most important conclusions concerning the conditions of pressure in the knee-joint and their variations in the various position of the limb, are so much less known than they deserve to be.—*Medical Times and Gazette.*

THE PHYSIOLOGY OF THE CERVICAL SYMPATHETIC.—MM. Dastre and Morat, after having recognized the existence in the cervical trunk of the sympathetic nerve of vaso-dilator fibres for the bucco-facial region, made a number of experiments to determine the physiology of these nerves, and have just announced their results at a meeting of the Académie des sciences.

1. Excitation of the posterior segment of the spinal cord, after its section in the cervical region causes a dilatation of the vessels of the auricular and bucco-facial regions, and of the buccal mucous membrane in the cat, rabbit, dog and goat.

2. The excitation of the peripheral ends of the anterior roots of the second, third, fourth, and fifth cervical nerves causes a dilatation of the vessels in the corresponding bucco-facial region.

3. If, after the section of the communicating branches between the spinal nerves and the sympathetic, the end which passes to the head is stimulated, the same dilatation is produced. The vaso-dilator nerves, therefore, pass through the sympathetic.

4. Stimulation of the two branches of the annulus of Nieussens produces the same results.

5. And stimulation also of all parts of the cervical sympathetic where it unites with the cranial nerves, especially with the trigeminal.

6. The comparison of the results obtained by stimulation of the sympathetic and of the trigeminal show that the latter nerve receives the greater part of its dilator fibres from the sympathetic.

These nerves may be stimulated by other means more physiological than electricity.

7. The blood in asphyxia stimulates both classes of vaso-motor nerves to activity; but the congestion, the index of the vaso-motor reaction, of the bucco-facial region is less marked on the side on which the sympathetic track has been divided.

These nerves may be stimulated either directly or, as is most usual, reflexly by an irritation coming from the periphery.

The following experiments show the regions in which these different nerves arise:

1. Stimulation of the vagus nerve in the inferior cervical region produces a bilateral dilatation.

2. The vaso-dilatation ceases or diminishes considerably on the side on which the sympathetic is divided.

3. Vaso-dilatation does not appear on both sides if the animal is deeply chloroformed, or if the cervical spinal cord has been divided at any point.

4. The vaso-dilatation is very marked when the superior laryngeal nerve or the vagus is excited at the origin of its pulmonary branches. When points lower than these are excited no dilatation follows, even if the cardiac nerves are stimulated. Hence the visceral sensitive nerves which govern this reflex come from the organs of respiration.

5. Excitation of the central end of the sciatic nerve also produces this congestion; stimulation of the tibial nerve, and probably of all the cutaneous nerves, has the same result.

6. After section of the cervical sympathetic trunk, reflex or asphyctic stimulation of this centre can still produce a certain degree of dilatation. When the section has been made sufficiently long to allow of the degeneration of its fibres, stimulation of the superior maxillary nerve can still produce a slight dilatation of the vessel in the lip of the same side. Hence all the vaso-dilators of this region are not contained in the cervical sympathetic.—*Revue Scientifique.*—*Amer. Journal Med. Sciences.*

Extirpation of Organs of the Abdomen by Means of the Elastic Ligature.—An important communication on a new method of operating has been just made at the gynecological clinic of Professor Hegar, in Freiburg. It would seem that a means has been found by which total extirpation of organs of the abdomen, *e. g.*, the spleen, kidneys, perhaps even of the liver, can be undertaken without very much danger. Hegar was led to use the elastic ligature in the treatment of intraperitoneal fibroid pedicles by the very favorable results he previously achieved in thus treating extraperitoneal fibroids, the dander of hemorrhage from the pedicle being by this means entirely excluded. Kasprzik, his assistant, in a communication to the *Berl. Clin. Woch.*, No. 22, 1872, has published the results of experiments upon animals, which consisted in placing pieces of elastic tubing, previously disinfected, in the peritoneal cavity of a rabbit, and killing the animal five weeks later, when it was found that the elastic had become fastened to coils of small intestine by fibrous tissue, but not a trace of suppuration was visible.

Repetition of this experiment on other animals gave the same result; therefore, it was held that the elastic ligature was very well borne by the abdominal cavity as a foreign body. A second series of experiments consisted in the tying of pieces of omemtum, uterus, spleen, liver, and kidneys, partly with elastic tubing, partly with solid India-rubber ligatures, the stumps being either cut off or burnt with the thermic cautery. The results were most satisfactory in the case of the omentum and uterus, especially with the thin India-rubber ligature, which did not cut its way through the tougher tissues as it did in the case of the spleen, where much better results were obtained by the tubing. In a dog, half the spleen was extirpated, and an elastic tube put on the pedicle, which was then cauterized. Five weeks afterwards, on opening the abdomen, a coil of small intestine was found closely adherent around the stump. On removing this, the ligature was found lying in a little cavity, above adhesions to the stomach. Another dog was at the time of the report still running about with one-half of his spleen tied with the tubing, the other with the solid ligature, and was to be killed later on, in order to observe the condition after a longer period of incarceration. The liver and kidneys have not been successfully treated as yet; but Hegar is of opinion that more caution in the degree of tying and in the selection of proper tubing will later lead to success. From these experiments, it is evident that uterine pedicles can be treated without danger by the elastic ligature which has here to deal with a firm tissue, which can be securely tied without leading to cutting through of the constricted portion, even the ligaments being capable of being treated in this manner. Kaltenbach, at the advice of Hegar, sank the pedicle of a fibroid, secured with an elastic ligature, into the peritoneal cavity after all the most carefully applied sutures had failed to control the hemorrhage; and the patient, twelve days after operation, was progressing favorably, the temperature in the vagina being 38.4 Cent. (101.1 Fahr.). Hegar uses a particular instrument for the purpose of easily controlling the amount of constriction, which is a forceps with smooth blades and rounded edges, having a spring catch to fix its jaws. For temporary ligature, this fixation would be sufficient; for permanent; it is necessary to fasten the two ends behind the forceps with a wire or silk thread, then to remove it and cut the ends short, the rubber pulling itself in front of the constricting wire, and thus precluding the possibility of slipping.—*London Medical Record.*

Vaseline and Boric Acid Ointment as a Non-irritant Antiseptic.—M. Lucas Championniere recommends an ointment of vaseline and boric acid as a non-irritant antiseptic. It is very particularly useful for those wounds which it would be important not to irritate. It is very advantageous as a local application in eczema and intertrigo; and in the erythema of infants provoked by the prolonged application of soiled linen, or from other causes, there is no better remedy. Its disinfecting action, though not very powerful, is sufficient. M. Championniere employed it with great success in feet that emitted a bad odor. The ointment was applied between the toes, and the effect was almost instantaneous. The formula of the pomade is—boric acid, ʒiss.; vaseline, ℥j. The acid should be employed in fine powder, and incorporated with vaseline, and not dissolved in alcohol or glycerine, which renders the pomade irritant.—*Medical Press.*

New Method of Reduction in Dislocations of the Humerus.—Mr. Jas. E. Kelly recommends the following as successful when other plans have failed. The patient should be placed as close as possible to the edge of the couch, on his back, with his head low. The operator places the injured arm at right angles to the body, and standing against it, with his side to the patient and his hip pressed firmly, but not roughly, into the axilla, he folds the arm and hand of the patient closely around the pelvis, and fixes the hand firmly by pressing it against the crest of his ilium. The second stage, during which the reduction is effected, is very simple, consisting merely of a rotation, or version, of the surgeon's body with a force and rapidity which necessarily vary with the peculiarity of the dislocation, some yielding most readily to a sudden and powerful effort, and others to gentle and gradually increasing traction.—*Dublin Journal of Medical Sciences.*

OBSTETRICS.

An Amputation of the Cervix Uteri for Malignant Disease.—In a paper read before the Société de Médecine, Paris, M. Polaillon, after relating a series of cases, makes the following summary of his opinions on the subject. 1. Amputation of the cancerous cervix by the galvanic cautery is not a serious operation; a perfect cure may be expected if all the visible disease be removed If traces of diseased tissue are seen in the uterine stump, immediately after the cervix has been severed, complete cauterization of the affected tissue will be necessary; for this purpose, solid chloride of zinc points are very efficacious. M. Polaillon thrusts one point into the cervical canal of the stump, and one or two more into any diseased tissue on the raw surface of the stump. After separation of eschars, this process of cauterization may have to be continued till all trace of disease is removed. Unsuccessful results have been due, not only to delay in operating, but also to neglect in thoroughly destroying all traces of disease in the stump. Amputation of the cervix by the knife, as practiced by Dupuytren and Lisfranc, is, in M. Polaillon's opinion, a most dangerous operation; amputation by galvanic cautery causes no risk to life, in the vast majority of cases, when it is performed by experienced hands. In one case, however, serious secondary hemorrhage occurred on the tenth day after operation; it was checked by plugging the vagina, and recovery was complete. Another case was complicated, not only by hemorrhage on the second day, but by a severe attack of quotidian ague, from which the patient had suffered several years previously. Cicatrization of the uterine stump was uninterrupted during the course of the ague, and the patient left the hospital in good health.—*British Medical Gazette.*

Cauterizing the Cervix in Incoercible Vomiting in Pregnancy.—At the Medical Congress held at Rochelle a member read a paper on "Incoercible Vomiting in Pregnancy, and its Cure by Cauterizing the Cervix." He cited seven cases in which this method was tried, and each time with full success. The author concluded by affirming that the time was come when this evidently heroic treatment should be admitted into medical practice and generalized; and thus many who were otherwise condemned to certain death would be saved. A colleague, replying, said he did not intend to attack the method of his learned friend, but he thought that the number of cases cited was not sufficient in order to convince him that no accident would result from the operation, for it was well known that all manipulations of the cervix in a woman enceinte provoked frequently abortion. In any case he would not attempt the operation except in the gravest cases. M. Maugy (the author) insisted upon the fact that in twelve cases he attended, abortion did not occur once. He was far from wishing to apply this method to every case. On the contrary, it was only when all other means were exhausted, and that the life of his patient was in danger, that he had recourse to the caustic.—*Medical Press.*

OPHTHALMOLOGY—OTOLOGY.

A New Ptosis Operation.—The insufficiency of operations hitherto proposed for the relief of complete or nearly complete ptosis, with little or no power in the levator, is well known. Pagenstecher has devised an operation which depends for its effect on bringing the frontalis to act directly on the upper lid; and thus substituting the action of this muscle for that of the levator. This is accomplished by producing a superficial vertical cicatrix connecting the frontalis with the edge of the lid. A needle is entered about a finger's breadth above the supraorbital ridge and carried downward beneath the skin to emerge at the level of the lashes; a thread is drawn through and the ends tied together without much dragging. Each day the thread is pulled on till it finally cuts its way out. The reaction is very moderate; the disfigurement caused by the scar is very little, and much more than made up for by the improvement in appearance obtained from relief of the ptosis. Pagenstecher has found one suture suffice in the cases operated on, but suggests that two may sometimes be necessary. For incomplete ptosis a modified form of procedure is advised. A thread armed with two needles is used. One needle is passed under the skin of the lid, parallel to and near the lashes, for a distance of one or two millimeters, drawn through, reëntered at the point of exit, and carried upward beneath the skin to a finger's breadth above the supraorbital ridge. The other needle is then carried from the point where the first needle entered, also upward, to emerge at the same place as the first above the brow. The two ends of the thread are drawn moderately tight and fastened. The loop thus formed may be removed after a longer or shorter time, or allowed to cut itself through, according to the indications of the individual case, and in this way a wholly subcutaneous cicatricial cord is produced. Care should be taken not to sink the needles so deeply above the brow as to wound the periosteum, lest a connection between the skin and the periosteum might occur and prevent movement of the vertical cord.—*Archiv für Augenheilk; London Practitioner.*

Miscellany.

TOLERANCE OF POISONS.— Rossbach (*Archiv. für die Ges. Physiol.* — *London Medical Record*) from a very extended study draws the following conclusions:

1. Tolerance of poisons comes on very rapidly (except in nervous and hysterical subjects), and it is thus that at the third or fourth cigar symptoms of tobacco-poisoning cease, and that the quantity of alcohol necessary to produce intoxication increases with use. When atropine is given to dogs daily, certain symptoms are observed at first which disappear in the course of a few days —such as hyperæsthesia of the skin, trembling of the body, etc. The animals then became as lively and vivacious as unpoisoned animals.

2. The organs of man and of animals become equally habituated to poisons, and in the same organism each organ behaves differently toward these.

3. There are organs which never become habituated to poisons, in the sense that they always behave toward them as at the beginning of the administration. It is thus that morphia, always administered in the same dose, induces sleep for weeks or months; that the smoker, consuming an uniform quantity of tobacco, feels, at the end of years, the same beneficial influence continued. It is the same with tea and coffee. Certain organs are influenced by the use of atropine after long usage as at the commencement—the pupil always dilates, the salivary secretion is diminished. It is precisely those organs which are most impressionable which least are influenced by habitual use of poisons.

4. Nevertheless, those organs by the prolonged use of a poison, remain influenced by it for a period of time which progressively diminishes; hence, drunkards, and those addicted to morphine experience the need of more and frequent doses of alcohol or of morphia.

5. Another series of organs reacts differently towards the same poison, according as it is administered for the first time or after a lengthened interval. Thus atropine acts at first upon the heart by paralysing the vagus, whilst at a later period it paralyses the motor nerves and the muscles of that organ.

6. Again, there are organs which become habituated to certain poisons (tobacco, alcohol, morphia), so that after a certain time they present no functional derangement.

7. These propositions are not valid, except where the dose remains the same. When the dose is increased, however slowly, a time comes when the poison again exhibits its action.

8. In an organism accustomed to a certain dose of the poison, a much larger dose acts in the same manner as a small dose on an unhabituated organism.

9. In general, the symptoms of chronic poisoning are extended to more organs and functions than those of acute poisoning. Thus in chronic morphia-poisoning we observe restlessness, insomnia, hyperæsthesia, neuralgia, an exaggeration of reflex movements, anorexia, malaise, vomiting, palpitation, albuminuria, malnutrition; whilst in acute morphinism purely nervous symptoms alone are observed.

10. In man and animals, if the dose of the poison be not continually augmented, but be kept at medium quantity, this amount may be supported with impunity for the rest of life. The proof of this is, that thousands of persons arrive at an advanced age who have taken for long periods tobacco, alcohol, coffee, or opium.

11. If the use of the poison be broken off at the end of a relatively short time—weeks, months, or it may be, in exceptional cases, years—health is restored in the course of a few days. But if the cessation take place after a more considerable period of use of the poison, certain morbid phenomena are observed, such as trembling, acute delirium, intellectual feebleness, and lowness of spirits. If now the use of the poison be recommenced, these symptoms rapidly disappear.

12. There is an epoch at which reparation of tissue is still possible, and one when this is no longer possible. In this last case, there is a notable change in the chemical composition of the substratum of the tissues; and this modification is appreciable by the microscope in certain organs, as, *e. g.*, the liver.

13. In order to explain the effects of chronic poisoning, we may say that the organs are not more impressionable to normal stimuli (carbonic acid, ferments), but only to the poison; failing this, the body is deprived of excitants, and a profound depression of most of the functions produced.

14. The fact that certain organs end by being no longer impressionable to poisons, is comparable to the immunity which certain organisms enjoy towards certain organized poisons (those of infectious diseases) when once they have been the seat of their action.—*Detroit Lancet.*

NORMAL AND PATHOLOGICAL SLEEP.—Emile Lung give the following *résumé* of the propositions established in an elaborate memoir of the above subject.

1. We are only conscious of the phenomena of the exterior world in which we live by the intermediation of our organs of sense which receive and transmit impressions to our consciences, of which the seat is in the brain, the organ of our physical life.

2. In addition to the phenomena of consciousness all sensations are reducible to vibratory movements, which are transmitted one after another through the nerves to the nerve centres in the brain and spinal cord.

3. The sensitive impressions which are transmitted to the spinal cord are not appreciated by our consciouses; they are capable of producing movement in different parts of our bodies, but these movements are effected unconsciously without any effort of will. In physiology they are termed reflex movements.

4. Just as a real sensation can exist without affecting our consciousness, so in certain cases we can be conscious of sensations which have no external reality. These sensations which are not evoked by an external object are termed halluci-

nations, and in persons with diseased judgment are interpreted as realities.

5. All sense organs are subject to corresponding sensations.

6. We find in certain peculiar states of the brain, in that of anæmia which produces normal sleep, in that of physical alteration which paralyzes a certain number of our intellectual faculties, the condition characterized by dreams, somnambulism, and hysteria.

7. Hallucinations can be produced in the healthy man by exciting the imagination, securing the attention, or by persuading the imaginary sensations.

8. The very fact that our organs of sense are liable to error should render us very careful in estimating their evidence.

9. Provoked hallucinations are obtained with great facility in persons plunged in pathological sleep in consequence of certain procedures or of a special neurotic state.

10. The pathological sleep is preceded or accompanied by such modifications of innervation as to lead to catalepsy, hyper-excitability of nerves and muscles, anæsthesia, hyperæsthesia, etc.

11. It is produced in persons who are predisposed thereto by certain procedures known as magnetic passes, hypnotism, physical impressions, such as music, thunder, loud noise, brilliant light, certain perfumes, etc., or by moral impressions, great fright, disappointment, great joy, etc.

12. The phenomena which accompany the condition should be severely criticised in order to detect those due to deception, etc.

13. In the actual state of our positive consciousness it is not necessary in order to explain the so-called magnetic phenomena, to have resource, with Mesmer and his followers, to the hypothesis of a fluid endowed with marvelous properties.

14. The essential cause of these phenomena does not reside in the magnetizer but in the magnetized and in a neurotic state peculiar to the latter.

15. Positive science cannot deny the possible existence in the universe of entirely unknown forces, but it can only speculate as to those which have been duly demomonstrated. Without doubt the extent of the unknown is immense, and we should aspire to new conquests by serious and methodic work, eliminating all error due to a diseased imagination or to new scientific interests.—*Rev. Internat. des Sci. Biol.—American Journal Med. Sciences.*

DR. J. J. WOODWARD, U.S. Army, has returned from Europe, and the profession will regret to learn that his health has not been improved by his trip.

A PRACTICAL ARGUMENT FOR SEWERS.—There were forty-three deaths in New Haven from infantile diarrhœa in July. The health of a delicate infant is the most sensitive metre of local salubrity known. It follows that in the most insalubrious localities three deaths occurred in thirty-two different streets and in thirty-eight different houses. But the most remarkable fact is that thirty-four of the forty-three victims were living upon streets in which there is no public sewer, and in houses about which are still tolerated those beastly abominations called cesspools and privy vaults. In most of the nine cases where the houses had sewer connections they were only for kitchen and laundry purposes, and the stinking privy still maintained its position in the back yard. Observe this fact also: A considerable majority of the population of New Haven resides upon the sewered streets, and yet only nine out of forty-three deaths from a disease which is chiefly caused by foul air, occurs among the majority; while thirty-four of the forty-three are among the minority who reside in dwellings surrounded by the fragrant companionship of time-honored filth pits. Any person can draw intelligent and reasonable inferences from the above plain facts.—C. A. Lindsley, M. D., Health Officer, in *New Haven Palladium.*

THE GERMAN IMPERIAL OFFICE OF HEALTH AND KOCH'S EXPERIMENTS ON THE TUBERCLE BACILLUS.—Prof. Billroth, during his recent sojourn in Berlin at the Session of the Eleventh Congress of the German Society of Surgery, took the opportunity of making himself more acquainted with this institution than he had previously been, and on his return to Vienna gave a short but interesting account of what he had seen to members of the Society of Physicians of Vienna.

At the present time, when vivisection, the tubercle bacillus, and R. Koch are so prominently before the minds of the medical profession, some of the information he imparted cannot fail to be interesting to your readers.

From the communication thus made we learn that the Imperial Health Office is the creation of the Imperial Chancellor. The building in which the work is carried on is of tolerable size, and contains a fair number of workrooms and laboratories, besides a number of apartments for the lodging of animals intended for experiment. The greatest care requires to be taken to keep the animals in perfect health, as it is known that under unfavorable circumstances they are liable to die off, or to fall victims to tuberculosis. Ventilation is here carried out so carefully that it is only to be wished that our own sick-rooms might equal it. The cages are kept scrupulously clean. Each animal represents an experiment. Besides the director and a number of fellow-workers (chemists, etc.), there are now several physicians specially occupied with the study of the tubercle bacillus, amongst them—a *Regierungs-Rath*, or Government Councillor.

As regards the tubercle bacillus, it is known that it has been long sought after, and many have thought they had already discovered it.

Billroth's own words will best express his meaning in the following sentence. He says:

"Judging from the whole method of research, and from the clearness and certainty of the process, for me it is beyond a doubt that in Koch's tubercle bacillus we have to do with a scientific fact not again to be set aside. Years ago I expressed the conviction that these vegetable organisms—and as such I considered the originators and disseminators of tuberculosis—must be discovered."

The Vienna surgeon considers that, notwithstanding the acknowledged genius of Koch, the first and greatest step towards the solution of this problem was made by Villemin, when he proved by experiment that tuberculosis was inoculable. From this time it has been settled that this disease could be transported by a fixed virus. The primary stage is a chemical process in the tissues, whence the pathological changes result. The chemical key we do not yet possess. Here in tuberculosis the chemical agent is associated with vegetable organisms; the latter are, however, but the carriers and disseminators of this unknown agent.

The tubercle bacillus does not seem to differ from the algæ that are already known to us (to which order it belongs) in its mode of development; it resembles other varieties in size and form so completely, that it cannot be distinguished from them by the microscope alone. Through Koch, however, we have been made acquainted with a reaction that separates it from all similar organisms.

Prof. Billroth described the vegetation forms of these algæ, how the rods increase in number, how the permanent spores develop, and from these again the rods, etc.

Professor Koch was convinced that the tubercle bacillus also developed spores, but that, contrary to what obtained in the case of bacillus anthracis, the whole process was completed in the body of the animal. As in the case of large plants, so this bacillus showed its own peculiarities in regard to the soil from which it grew. It had been long known that rabbits and guinea-pigs were easily inoculable, but that, on the contrary, dogs were not. Within the animals, also, the parasite showed peculiarities in its growth; it attacked some organs very readily; whilst in others it remained at the lower stage of development, and rapidly died out. Absolutely uninoculable the dog is not, as Koch has recently shown, but for this parasite he does not offer a suitable soil. Generally speaking, the herbivora are more fitted for the growth of this alga than the carnivora. Barndoor fowls have a high degree of receptivity for the tubercle bacillus, whole yards of fowls quickly dying off.

In the human species the disposition to tuberculosis is a very varied one, and this disposition is handed down from parents to children. Only this is to be understood by the hereditariness of tubercle, viz., the greater receptivity for tubercle infection, which is also outwardly expressed in the bodily structure. A lesser disposition to infection is the great protection of the bulk of the human race.

Another reason why local tuberculosis (Volkmann) so often exists without general infection, why a relatively large number of individuals, the subjects of caries of the bones, do not become the victims of general tuberculosis, lies in certain mechanical conditions. At the periphery of such tuberculous masses (bones, lymphatic glands) is a thickening, a compact capsule that prevents the emigration of the vegetable organism into the circulation.

Moreover, the plant requires for its development a high temperature—that of the blood—whence the development does not take place outside the body. This difficulty in the way of growth is likewise fortunate for humanity. The spores require a certain period of rest before they germinate afresh, and this is plainly the period of incubation that is observed after inoculation.

From a practical point of view, we know now that tuberculosis is an infectious disease. This, indeed, was believed before now; but we have now obtained a fresh grip, as it were, when we see that the tubercle bacilli are present in the sputa of those patients whose mucous membranes are in a catarrhal condition. Much that we have looked upon as heredity must now be considered to be infection. Thus, for example, a tuberculous mother who ejects a sputum into her pocket-handkerchief, and uses the handkerchief to her child who has sneezed, may infect her offspring. Another sourse of infection is the intestines, which may become the channel of infection from flesh, or milk from tuberculous cows, etc, ("grapes"). These sources of infection must be studied. The sputa, and the other dejecta of tuberculous individuals are also infectious, but certainly in a lesser degree. Pus becomes horny in drying, and a firmly-seated crust. To examine into this and much more is reserved for the future.

This discovery of Koch's has this beauty in it, that it carries our medical observations into the domain of science; that which has been assured empirically for millenniums finds now its confirmation in natural science.—*Medical Press.*

THE MOVEMENTS OF EPIDEMICS.—In a recent paper to the Statisticial Society of London, Dr. Guy, who has made small-pox statistics a speciality, submitted the following statements regarding this and other epidemics.

As a preliminary it was necessary to define an epidemic. In the case of small-pox reasons were given for taking the ratio of deaths by it in 1,000 by all causes, or ten per cent. as an epidemic. In the case of small-pox reasons were given for taking the ratio of 100 deaths by it in 1,000 by all causes, or ten per cent. as an epidemic; in the case of measles twenty in the 1,000; in the case of whooping cough twenty-five in the 1,000. The general result arrived at under this head was that epidemics of small-pox, so defined, were in excess in the eighteenth century, and especially in the last half of it, less numerous in the seventeenth, but wholly absent in the nineteenth. This last was the salient and notable fact established up to that point. The second heading, the maxima and minima comprised in the returns, afforded some striking results. The highest figures occurred in the eighteenth century, the lowest in the nineteenth. In one year of this latter century the figures fell so low as 0.56, or more than one in 2,000! So also of the third heading. It was shown that the intervals between the epidemics which averaged four years in the seventeenth century, averaged only two in the eighteenth; while the highest figures of the nineteenth century which fell short of 100, were separated by no less than fifty-six years. When similar inquiries were carried out in respect of measles and whooping cough, these diseases were found to move in the opposite direction of small-pox. They increased in the nineteenth century while small-pox decreased.—*Sanitarian.*

Pen Picture of Pasteur.—M. Pasteur is described as a man of low stature and powerful frame—spare, angular, and weather-beaten. Of humble origin, the son of hard-working parents, he bears the indications of his race and hereditary bias in every lineament of his well-knit, muscular physique. He is a man of few words, abrupt but clear in his sentences, logical, and to the point. His style of speaking is what would be ordinarily called argumentative; his voice is clear and distinct, but unemotional, and his gestures are quick and impetuous, although wanting in the elegance that arises from early training. It is a very curious fact, but one that finds its correlative in the lives of Wallace, the celebrated British naturalist, and Prof. Crookes, the great master in physics, that, although his fame rests upon minute researches of the most material complexion, M. Pasteur is an ardent and steadfast believer in spiritualism. He takes no interest in the positivist doctrines of Comte, or in the evolution theories of Herbert Spencer, who, he thinks, overlook the central fact of the universe, infinity. Like M. Little, he holds that without a spiritual link the human family would fall to pieces and nations degenerate into barbaric hordes. In his own neighborhood, M. Pasteur is a man of political and social weight, and in his own house he is the soul of genial and pleasant hospitality.—*Medical and Surgical Reporter.*

M. Dastres has forwarded a note to the Paris Academie des Sciences describing his researches in order to arrive at an explanation of the laws which determine the beat of the heart and its periodic variation. M. Marey has shown that cardiac excitability, which disappears during systole reappears during diastole. The causes of these variations are:

1. Pressure of the blood on the walls of the heart.
2. The action of the intracardiac nerves.
3. The action of the extracardiac nerves.

M. Dastres concludes, from his observations, that the period of repose observed after every systole and diastole is independent of muscular action, and is determined by the action of the intracardiac nerve-apparatus which regulates the beat of the heart.

Virchow on Soups and Broths.—The distinguished German professor and politician has been accused of being the chief opponent of soup. He says that this is not true, for he had merely said that meat broths are neither nutritious nor "substantial." That if the meat which one uses should be boiled and soup made of it, the meat would not be a substitute for it. Ordinary meat broth or bouillon in its pure form can only be recognized as a condiment. By the addition of eggs, flour, fat and other things, it may acquire a certain nourishing and heating value. It is, primarily, only a very dilute aqueous solution tion of subtances that are in part of low value as heat producers, such as gelatine, and in part of the stimulating aromatic parts of the meat. Taken warm, it is of nearly the same value as coffee or tea, but is inferior to wine, schnapps, or beer; it only stimulates the nerves. It has one advantage over every other condiment, namely, it contains no poisonous substance, it is incomparably milder, hence much better adapted to feeble persons; and finally it can be conveniently combined with substances that are actually nutritous, and imparts to them an agreeable and "substantial" taste.—*Scientific American.*

Women at the University of London.—The following concerning the female candidates who have obtained honors at the recent examinations of the London University is taken from the *London Queen:*

In intermediate examinations in medicine no woman's name appears in either section of anatomy, materia medica, chemistry, or physiology, but in the examinations in arts and sciences, more particularly in the sections of modern languages, women are far more successful. The critical study of their mother tongue, however, seems hardly to be so much affected by them as that of French and German, although Miss Annie Dawe, of Bedford College, and Miss Louisa Brown, of Cheltenham, are in the second and third classes of honors in English. In Latin, though no feminine name appears in the first class, Miss Louisa MacDonald, of University College, heads the second, and Miss Helen Pattison, of the same college, and Miss H. E. Macklin, of Bedford, are in the third.

In French and German, however, the ladies more than hold their own. Miss Marguerite D. M. Goldschild, of Bedford College, is first of the first division in French, carrying off also the extra prize; and in the third class are the names of Miss H. Pattison, Miss C. Rickett, of Bedford College, Miss Adelaide Klein and Miss E. Macklin, both of Queen's College, and Miss Edith M. Pope. In German, again, the list is headed by a lady, Miss E. A. S. Dawes, and Miss Macklin, of Bedford College, is in the third class.

In the science subjects that are not strictly medical the name of one lady, Miss Elizabeth F. Toone, appears in the third class of honors in inorganic chemistry; while in experimental physics Miss Edith Aitkin, of Girton, is in the second class, and Miss Toone and Miss C. M. Pole, of Bedford College in the third. Honors in botany fall but to the share of two ladies, Miss Aitken, who is in the third class, and Miss Isabel Clare Evans, of Mason College, Birmingham, in the second, while the zoological honors are all taken by men.

In the mathematical honor list the names of women do not appear, nor in that for zoology. In science generally the female students can hardly be said to be pre-eminently successful, while in modern languages other than English they have secured far more than the average proportion of the honors due to their numbers.

To the doctrinaires who maintain the absolute identity of the intellectual powers in the two sexes, the publication of these results must be the reverse of gratifying; while to those who recognize the rapid perception and great intellectual acuteness of well-trained girls, the list will not be surprising. That young women should prove better linguists than men of a similar age is what every experienced educator expected. That they should not be equal to them in abstract or practical science will disappoint no one except those crotchety individuals whose conclusions can hardly be excused even on the ground of their want of experience.—*Medical and Surgical Reporter.*

THE USE OF TOBACCO BY BOYS.—The use of tobacco by growing boys is so generally recognized as pernicious, that it is extraordinary that measures are not urged upon those having the care of youth to prevent the habit. Already it has been prohibited in the U. S. Naval Academy, at Annapolis, in the U. S. Military Academy, at West Point, in the Phillips Exeter Academy, New Hampshire, and in various other enlightened educational institutions.

This was not the result of prejudice or hobbyism. If any set of men are free from these vices of learning, it is the naval surgeons, and it was especially from them, and particutarly from Dr. A. L. Gihon, U. S. N., that this attack on the weed began. The indictment laid against it charged:

1. That it leads to impaired nutrition of the nerve centres.
2. That it is a fertile cause of neuralgia, vertigo and indigestion.
2. That it irritates the mouth and throat, and thus destroys the purity of the voice.
4. That, by excitation of the optic nerve, it produces amaurosis and other defects of vision.
5. That it causes a tremulous hand and an intermittent pulse.
6. That one of its conspicuous effects is to develop irritability of the heart.
7. That it retards the cells change on which the development of the adolescent depends.

This is a formidable bill of particulars, and yet each of these charges is preferred by the best modern authority, and what is more, each is substantiated by an abundance of clinical evidence.

Testimony is also adduced from the class records of schools and colleges, which indicates very positively that the effect of tobacco on the mental faculties is deterioriating. The best scholars are not tobacco users; non-smokers take the highest rank in every grade; and whether we look at the exceptionally brilliant students, or compare the average of those who use and those who refrain from tobacco, the result shows the same.

With these facts staring us in the face, it becomes the duty of every schoolmaster and every parent to set himself resolutely against the beginning of this injurious indulgence.

It is, indeed, no easy matter to prohibit it successfully. There is a curious attraction about this nauseous plant, which has never been explained. A habitual consumer of it can not explain its fascination. It has extended over the world with marvelous facility.

Nevertheless, we believe that the youth of America are intelligent and ambitious enough, in in the aggregate, to be trusted. If the consequences of tobacco using are plainly stated by an authority that a lad respects, it will often lead him to drop the habit, or to refrain from beginning it, when threats and punishments would not. The latter he regards as an exercise of arbitrary power, the former appeals to his reason and good sense. It is the duty of a physician to express himself plainly on this subject, and he can only do so by condemning the habit in boys, at any rate.

NEW INSTRUMENT FOR LOCAL ANÆSTHESIA.—In *Le Progrès Médical* for Saturday last there is contained an account of an ingenious and novel instrument invented by Dr. de Lesser, of Leipzig, the principle of which consists in the application of metal plates, cooled by rapid evaporation of ether, to the surface about to be operated on. The apparatus consists of a nickel case, the base of which is slightly concave, and can be applied to any rounded surface of the body, as the fingers, arms, tumors, buboes, etc. Another side is convex, for adaptation to depressions on the body surface, and it always insures that a sufficient area shall be influenced by the cold. Two tubes open into this box; through one air can be driven by a hand syringe, through the other ether is introduced. By the passage of the air the rapidity of evaporation can be controlled, and a high degree of cold produced, which, reacting through the conducting sides of the box on the skin to which it is applied, brings about very considerable local anæsthesia. Its inventor has obtained excellent results with the machine in extirpation of foreign bodies, disarticulations, amputations, etc., of the fingers, and in operations on the nails. He, however, first applies Esmarch's bandage to the part, whether limb or digit, to be operated on. The plan has also been successfully adopted in freezing substances for cutting into microscopic sections."—*Lon. Medical News.*

The *North American Review* for November presents an unusually diversified Table of Contents. "English views of Free Trade," by the Hon. John Welsh of Philadelphia, is a clear and and forcible exposition of the difference between the economic situation of England and that of the United States, and of the considerations which make Free Trade imperative for the former country, if she would retain her present position as the world's workshop. Joseph Neilson, Chief Judge of the Brooklyn City Court, writes of a "Disorder in Court-rooms," a subject of profound interest to good citizens at all times, and more especially now in view of certain recent occurrences. The *obiter dicta* of the learned author touching the Guiteau trial and the Lawson-Gray incident at Dublin, are characterized by the best judicial temper. Dr. Wm. A. Hammond, ex-Surgeon-General of the U. S. Army, offers "A Problem for Sociologists," the problem being to determine the degree of responsibility before the criminal law, of persons affected by certain forms of insanity.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, October 21st, 1882.

The Week.

NEW MEDICAL COLLEGES. — The frequently reiterated cry that there is a pressing demand for a new medical college to supply a long-felt want in every enterprising city of twenty to fifty thousand inhabitants is a snare and a delusion. Medical colleges located in any city with less than one hundred thousand inhabitants is by force of its very location a poverty stricken affair. It can have no clinics worthy the name, for the material does not exist; museums cannot be created for lack of specimens; large public libraries are out of the question; and, beyond all this, a full faculty of capable and qualified professors, who can and will make medical teaching their primary work, cannot be brought together in a small city.

Large and prosperous colleges may be and often are pointed at as illustrations of what may result from a very small beginning in a small city, which may be strictly true in regard to times that are past. Half a century, or even a quarter of a century ago, means of travel from one section of the country to another was limited in comparison with the present, and the wonderful strides made in medicine within that time has changed the entire physical equipment of a medical college.

The important professor of pathology with his necessary laboratory has grown into existence almost within a decade. Gynecology, a practical chair, was not thought of twenty years ago. Histology and microscopy are growths of a decade. These chairs could no more have been filled in a city of twenty to fifty thousand people fifty years ago than they can in the present day.

The conditions upon which a professor holds any chair in a medical college are such that he is ever on the alert to keep abreast of the constant progress made in the subject he teaches, and if equal to the place he fills, will strive to add his mite to the advance along the line.

Even the professor of anatomy is obliged to carry his class beyond the coarser structures and demonstrate the viscera, bone, nerve and muscle as seen under the microscope. Demonstrations in physiology are demanded and conducted in like manner. Thorough teaching in any of the departments of medicine is not possible in a small place, nor is it possible to be given in three or four months with the best facilities in a large city. In all the best colleges the length of the lecture term has been extended in addition to the preliminary term. Yet even this does not meet the demand of a large number of students, and in consequence we have springing into existence the new grade post-graduate schools. These schools are sometimes said to have taken form on account of professional jealousies. This may be the case to some extent, but the very large number of graduates who every year go to the metropolitan medical centres for special instruction is the cardinal reason for the organization of the post-graduate schools.

Schools of this grade promise good professional work, they will be manned by specialists who are ambitious and of high attainments; they will offer all the possible advantages of a residence and course of study in any of the European capitals.

THE CINCINNATI BOARD OF HEALTH. — The mysterious ways of this mysterious body are marvelous and incapable of comprehension. In houses where small-pox exists, sanitary policemen continue to paste yellow placards on the back doors and in unseen corners. There must be some virtue in those yellow posters, or they would not be used in that particular way. The regularity with which the board publishes a weekly death-rate of "two from small-pox," is beautiful to behold, besides it is convenient to the printer. Perhaps this regularity in the death-rate is brought about through the persuasions of a patent germicide manipulated by members of the board—Nothing like getting a corner on the germs, controlling the supply according to the demand.

COLUMBUS MEDICAL COLLEGE.—This institution with its phenomenal faculty, phenomenal course of study, phenomenal examinations, and phenomenal way of granting diplomas, is getting the benefit of a good deal of gratuitous advertising. In fact nearly the whole medical press has commented on its disreputable doings, until it seems to be placed on a plane but little above the infamous Buchanan Colleges of Philadelphia. And all because of a break in the faculty which had the effect of letting some rays of sunlight through the rent. Which reminds us of a pertinent saying of Josh Billings: That "a reputation once broken may possibly be repaired, but the world will always keep their eyes on the spot where the krack was."

We believe that a rift in the faculty of any other medical college that is brought into existence, named, and set in motion for the special glorification and aggrandizement of one man, would let the light shine on a management not a whit better than that of the Columbus College.

SMALL-POX AND SCARLET FEVER.—There are more than enough cases of these dread diseases in Cincinnati to start a first-class epidemic. With an imbecile city government, filthy streets and reeking gutters, and a serious outbreak of cholera in Mexico, only the wondrous ways of an overruling Providence will protect the city from a scourge.

AMERICAN ACADEMY OF MEDICINE.—The seventh annual meeting of the American Academy of Medicine will be held in the hall of the College of Physicians, Thirteenth and Locust Streets, Philadelphia, Pa., on Thursday, October 26th, at three o'clock, p.m.

RICHARD J. DUNGLISON, Secretary.

ACADEMY OF MEDICINE.—Dr. Zenner will read an essay on "General Paralysis," next Monday, the 23d inst.

Bibliography.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN.[1]

The exhaustion of the second edition of this valuable work within a year after its publication, with a demand for a new edition, speaks in highest terms of its appreciation by the profession. Some of the chapters have been rewritten and elaborated and the work considerably enlarged. Many additional cases are recorded illustrating rare forms of disease, with the author's observations and treatment.

This work from the issuance of the first edition has been accepted by the profession of this country as a standard text-book on dermatology, and frequent revisions in order to keep it up to the latest knowledge of skin diseases will for some time make this a standard authority for consultation and reference.

LABOR AMONG PRIMITIVE PEOPLES.[2]

One time and another we have taken up a good many curious medical books, but this certainly crowns them all. Not only is the book curious, but it is all the way through instructive, and, written in the author's graphic style, attracts and holds the reader's attention to the end of the last page.

In order to the production of this little book of two hundred pages, Dr. Engelmann literally ransacked the libraries of the whole world. The illustrations, like the text, are unique and depict in a graphic manner the different positions assumed in labor by primitive people.

SIX LECTURES ON LIGHT.[3]

As a popular expositor of science, Professor Tyndall holds the very first place, and the work named above is admittedly his masterpiece. A subject of no little difficulty and abstruseness is here treated by him in a style which for clearness of expression and grace of diction challenges the admiration of all lovers of "English undefiled." The work forms a valuable addition to the excellent series of popular scientific books known as the Humboldt Library of Science.

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[1] By Louis A. Duhring, M.D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania Hospital, Dermatologist to the Philadelphia Hospital, etc. Third edition. Revised and enlarged. Philadelphia: J. B. Lippincott & Co. 1882. For sale by Robert Clarke & Co. Price $6 00.

[2] Showing the development of the obstetric science of to-day, from the natural and instinctive customs of all races, civilized and savage, past and present. By George J. Engelmann, A.M., M.D., Professor of Obstetrics in the Post-Graduate School of Missouri Medical College, etc. Fifty-six illustrations. St. Louis: J. H. Chambers & Co. 1882.

[3] By Prof. John Tyndall. Illustrated. Price 15 cents. J. Fitzgerald & Co., Publishers, 30 Lafayette Place, New York.

Original Communications.

TRICHINA SPIRALIS.

By Chas. P. King, A.M., M.D., Newark, Ohio.

No period in the history of the world has been so productive of scientific knowledge as the century in which we live. In proof of this assertion we have only to glance at some of the observations and discoveries which have during the last few years been added to the great book of physical truths. Modern science, in its dealings with those great questions, physiological as well as pathological, which are continually presenting themselves for consideration, has been lead or rather *forced* into a bolder form of inquiry during the last half century than at any previous period. Hence it may be said with truth that we are living in an age pre-eminently progressive.

But very recently the whole world has been startled, as it were, at the discovery of the eminent German chemist, Dr. Koch, of Berlin, who, after a long series of experiments upon lower animals, has succeeded in demonstrating to the scientific world that that most terrible of all scourges, pulmonary consumption, has its origin in a parasite.

While a sufficient time has hardly elapsed since this new doctrine has been promulgated as to be established beyond all controversy, still, to the close observer and thinker who will take the pains to follow this distinguished scientist through all his elaborate experiments (carried on, as they have been, for a series of years on a most gigantic scale), he cannot help being forced to the conclusion, skeptical though he be, that there is more of genuine truth than speculation in the new doctrine advanced.

It is to the microscope that we are indebted for this as well as nearly all of the most recent discoveries in science. It has wrought a revolution in the science of medicine. It has given a new impetus to the study of disease. By its aid many of the most intricate problems in science have been solved, which would otherwise have remained shrouded in darkness and uncertainty. When we remember that microscopic science is yet in its infancy, who can even pretend to foretell the grand achievements which it is still to accomplish in almost every department of science during the next quarter of a century?

The subject of trichinosis, or trichinous disease, is one to which my attention has been recently turned, from the fact that but a few days since a large piece of smoked ham was brought to my office for microscopical examination, being supposed to contain the germs of this terrible disease.

For a long time there were many who were so incredulous as to doubt the existence of the parasite commonly known as *Trichina Spiralis*, and some went even so far as to assert that it was not susceptible of proof, and therefore should be regarded only as a delusion or a myth.

Let us see what science has to say in regard to this matter, for it is to her that we should invariably turn when such weighty problems are to be solved.

There are several varieties of parasites which infest the human body, all of which are susceptible of classification. These parasites not only find their way into the body soon after birth, but are found even in the fetus in utero. No less than five species of vermes inhabit the alimentary canal alone. Many species crawl upon the skin, and hide in its hairy covering, or burrow and propagate in the cutis vera or cellular tissue. These are called epizoa. All the organs of the body, such as the brain, heart, lungs, liver, spleen, kidneys, bladder, and the eye even, have each its peculiar species of parasites. These form the other grand division commonly known as entozoa. Belonging to this latter division there is still another species of parasite, which is a much more deadly foe to man than any or perhaps all those mentioned; I refer to the trichina spiralis, which forms the subject of this paper.

This parasite was first discovered in the year 1832, but was not scientifically described until 1835, when Prof. Owen, the eminent zoologist, gave to the world its natural history. This is one of those parasites for the discovery of which we are indebted to the microscope. It was named trichina spiralis from its resemblance to a fine hair coiled upon itself like a watch-spring. The word is of Greek origin signifying a hair.

During the year 1835 six persons were admitted to the London hospital who were suffering from trichina poisoning. Ever since that time leading medical men, not only in Europe but also in our own country, have been investigating this subject carefully and many interesting cases have been observed and fully described. This parasite is only visible to the naked eye where inclosed in its capsule. These appear in small white points when a section of muscle is examined.

Since the investigations of Prof. Owen, many eminent German physicians and men of science have been devoting much time to the investigation of this subject, among whom I might mention Virchow, Herbst, Zenker, Bischoff and others. In our own country, I might refer to the eminent Professors, Dalton and Flint.

The trichina is most generally introduced into the stomach of man in its capsule, though it is possible for it to find its way there in the free state. This calcareous shell, as it is called, is dissolved by the acid juices of the stomach and the parasites thus set free rapidly acquire their growth and sexual power, and copulation and reproduction are perfected within one week after their introduction into the alimentary canal. The female is said to bring forth from sixty to one hundred live trichinæ. The young swarm immediately commence their work of destruction by piercing the coats of the stomach and intestines. It is not definitely known how long the parent trichnia lives after producing the new swarm, but it is certain that it never leaves the stomach and alimentary canal, and probably it dies within a fortnight.

The instinct of the young trichinæ impels them to seek the fibre of the voluntary muscles. In order to reach the muscles the coats of the stomach and intestines must be pierced, and this *boring process*, as it is called, gives rise to a train of symptoms which closely resemble acute diarrhea or dysentery. Bloody stools often occur, and ulceration and perforation of the bowels are frequent results of this inflammation. The muscles of the abdomen are first attacked, but they soon find their way into those of the chest and neck, and, by degrees, reach the muscles of the back and extremities. When we remember that a single ounce of flesh may contain trichinæ enough to produce in eight days 3,000,000 young, it is not surprising that the entire substance of the abdominal muscles should be found sometimes entirely consumed.

We are all familiar with the Hettstadt tragedy, which occurred in 1865, where so many lives were lost by persons eating sausage made from trichinous pork. I quote from the *British Medical Journal*. This village is situated near the Hartz Mountains in Germany. It was an annual feast and one hundred and three persons sat down to dinner, one of the courses being "sausage and vegetables." The sausage had been prepared before hand for this occasion. The day after the dinner several persons who had participated were attacked with pain and irritation in the intestines, with loss of appetite, fever, and great prostration. The number increased from day to day, and an epidemic of typhus, or septic fever, was apprehended, as the symptoms began to assume that character. However, as the disease progressed, the symptoms assumed a different type, and to diarrhœa and dysentery and fever were added peritonitis, circumscribed pneumonia, and paralysis of the abdominal and intestinal muscles with those of the neck. Then the typhus theory was abandoned, and some unknown poison was assumed to be at the bottom of it. Under this conviction every article of food connected with the dinner was examined. By this time the trichinæ had reached the muscles of the calves of the legs in some of the victims. The remnant of the sausage was examined and found to be literally *swarming* with trichinæ. Portions of the muscles of the calf of the leg of the affected ones were examined under the microscope, and were found *full* of *free* trichinæ. There were the progeny of the *encapsuled* ones, which had escaped the smoking and trying process, to which the sausage had been subjected. No less than eighty-three of the above mentioned number, died within a few weeks, and the remaining twenty recovered after a long and painful illness.

The first genuine case of trichina reported in this country was by Dr. Schaulter, of New York, in 1860. At Marion, Iowa, in 1866, nine cases occurred in one family, under the care of Dr. J. H. Wilson, of whom five died. During the past few years quite a number of cases have been reported from various portions of our coutry. In the cases referred to, occurring in the practice of Dr. S———, he examined the ham which had been eaten, and found it alive with trichinæ. The eminent Prof. Dalton also made an examination, and counted in a single muscle, $\frac{1}{12}$ of an inch square, and $\frac{1}{50}$ of an inch thick, twelve trichinæ, which would give in round numbers over 85,000 to the cubic inch.

Early in 1876, the *Springfield Republican* gave an account of six cases of trichinious disease which occurred in one family in that place, caused by contaminated uncooked ham. A few days afterward the symptons of disease began to appear, pain and swelling of the eyes, agony in the stomach and bowels, vomiting, diarrhea, and profuse perspiration. Afterwards the limbs of the sufferers became rigid, the least movement causing the greatest torture. One of the daughters, an interesting girl of seventeen, died after a fortnight of suffering. In a small portion of muscle examined, trichinæ were found swarming to the fearful extent of from 50,000 to 80,000 per square inch.

Not long since a patient died in the Dresden Hospital, Germany, from the effects of trichina poisoning, and the muscles of her body furnished materials for numerous experiments which have thrown much light on the origin and development of this parasite. A post mortem examination of the body showed the muscles moderately developed, of a pale, reddish grey color and dotted over with specks, which turned out to be germs of new encapsuled trichinæ lying free upon and within the sheaths of the muscular fibres. They were alive, some coiled up and others lying straight, and they appeared to be in all stages of development, diffused through the striated muscles of the body, not even excepting the heart. The muscles had undergone a very marked degree of degeneration. Death was due to the development of trichinia spiralis, whose existence fully explained the anomolous symptoms which attended the case.

Concerning the symptoms caused by the presence of trichinæ, I will quote from the eminent Prof. Dalton. He says: "Now, to what symptoms does this accident give rise? I have already said within the first ten days there is irritation of the intestines; in some instances their irritation is very great, and the greater it is, the more favorable prognosis, as a general rule." After eating trichinous pork the patient generally begins to suffer within the first week, sometimes within two days. Now if the irritation of the intestines be extreme, so that frequent and abundant evacuations are produced, the chances are that all, or nearly all, of the parasites will be discharged from the intestines. If so, the patient is safe. But if the irritation be not very marked, time is allowed for the young trichinæ to penetrate the interstitial walls, and enter the muscular tissue—from the end of first to the end of the second week. This is the most dangerous stage, the second stage of the disease. The passage of the worms into the muscular tissues, and the changes taking place there, are very apt to produce symptoms which result in the patient's death at or before the end of the fourth week. By that time the worms have been completely encysted, and after this the symptoms of irritation begin to disappear. The muscular system becomes habituated, as it were, to the presence of the parasite, and after awhile the symptoms all subside, the patient can move his limbs as before, and then consider himself as entirely out of danger."

The great cause of trichina in man is eating pork that is either raw, or not thoroughly cooked. This disease cannot be cured; that is, there are no known specifics in the way of medicines. As soon as the disease is suspected, even, the parasites should be expelled from the intestines as soon as possible, by the administration of active purgatives, which, if commenced in time, may prove successful.

This disease, however, can be prevented. The way to do this is never to eat pork, that is, not thoroughly cooked. Warming is not sufficient; thorough cooking alone destroys the life of the trichina. All the evidence thus far adduced goes to show that the more the cooking, the milder the disease. Those cases in which the pork was eaten raw, were of the most violent character, and invariably proved fatal.

To show how remarkably tenacious of life these trichina are. I quote from Dr. Coffold in the *London Lancet*; he says: "Cook your pork thoroughly, is not bad advice, but the question arises, what is thorough cooking? On this important point I have to remark that the application of very considerable heat is probably rather favorable than otherwise to the development of these entozoa. Recently, on dropping hot water, almost boiling, over living, non-capsuled trichina, under the microscope, I found that the only effect was to make the little worms more active. Determined to kill some of them, I boiled a minute portion of human trichinized muscle for more than five minutes. The fragments contracted almost to the consistence of leather, yet on subsequently breaking up the trichina capsules, the flesh worms appeared uninjured."

While engaged in penning this article, reports are coming to us daily from different portions of our country, of the discovery of trichinious pork, and the mortality in many cases is appalling. Are not we, the custodians of the public's health, very much to blame for not bringing this matter more prominently before the public authorities, that something may be done whereby this disease can be at least arrested, if not entirely eradicated? To whom are the public to look in all matters pertaining to sanitary reforms, unless it be to the medical profession? We are very much in need or a State Board of Health, and I trust that the time is not far distant when our Legislature will see the absolute necessity of passing a bill creating such a Board for Ohio, and it should be the duty of the entire profession to encourage any efforts put forth in that direction, which if carried out will result in incalculable benefit not only to the state, but also the country at large.

While thorough examination with the microscope will detect the trichina, and thorough cooking will prevent the disease, the only safe and infallible rule, in my opinion, against the terrible ravages of the most loathsome of diseases, is to adhere strictly to the Mosaic law, and abstain from the use of pork entirely. In view of all the facts set forth in this paper, would it not be far better for all concerned that a law be enacted prohibiting the use of pork entirely, or, if this cannot be done, the Government might appoint a sufficient number of competent experts, whose duty it should be to examine all pork microscopically before it is brought to the market, and see that only healthy meat is sold; and until some action of this kind is taken by our general government, we may still expect to hear of the continued ravages of this disease, and many valuable lives will be needlessly sacrificed, which by a little timely precaution might have been saved.

ABNORMALITIES OF THE ARTERIAL SYSTEM.

By Miles F. Porter, A.M., M.D., Ft. Wayne, Indiana.

It has been my privilege to see some abnormalities of the arterial system during my studies in the dissecting room this fall, which, on account of their rarity and importance, I considered it well to publish.

Case I.—Was one in which the profunda artery was given off from the femoral on its *inner* side, only about one-quarter of an inch below Poupart's ligament, and from the *profunda*, about one-half inch below Poupart's ligament, arose the *internal epigastric*, which pursued a course upward and inward in front of the femoral vein within the sheath, to the upper part of the margin of Gimbenat's ligament where it passed through the femoral ring and in the remainder of its course was in the same relative position as is usual.

The same peculiarity occurred on both sides, and, in the *same subject*, on both sides occurred the following:

Case II.—In which there was an absence of the tibial artery, its place being supplied by the peroneal, which was unusually large, and after giving off muscular branches to the anterior tibial region pierced the interosseous membrane two and one-half inches above the ankle joint, was continued down to the ankle where it was divided into an outer and inner branch. Before dividing and at the division, the artery lay on the outside of the pereoneus tertius, covered only by the skin and fascia. The outer branch, the smaller, ran beneath the tendon of the pereoneus brevis distributing branches to the outer side of the foot. The inner and larger branch, which I consider the substitute for the dorsalis pedis, passed inward beneath the tendon of the peroneus tertius and the fourth tendon of the extensor longus digitorum continuing its course towards the toes between the third and fourth tendons of this muscle, and finally beneath the extensor brevis digitorum to be distributed as the dorsalis pedis usually is.

Regarding the anomalous origin and consequently anomalous course and relation of the internal epigastric artery, any surgeon will readily see how *disastrous* a cut in the usual direction, "upwards and inwards," for the reduction of a femoral hernia would be in a case of the above description. Why not cut *inward*, or *inward* and *downward?* In doing this we will be as safe in those, not very frequent instances, where the obturator arises from the epigastric, and in normal cases, and *far safer* in cases of the kind just related.

Regarding the frequency of this anomaly I can only say that I have known of no cases of the kind every having been reported. However, I have not had the time to look up the subject as I would like. The second case is not of sufficient rarity or importance to require any remarks.

AUTOPSY OF A CASE OF TRANSPOSITION OF THE VISCERA.

Read before the College of Physicians and Surgeons,
Philadelphia, Pa., October 4, 1882.

By H. AUGUSTUS WILSON, M.D.,
Pathologist to the Presbyterian Hospital and Ophthalmic and Aural Surgeon to St. Marr's Hospital, Philadelphia.

The apparently rare occurrence of the phenomena, an instance of which I am about to relate, will be, I think, sufficient excuse for occupying the time of the College. I regret that I am not able to offer a more complete record of the case; but a careful dissection was impossible without taking an unwarranted risk of septic poisoning, as the abdominal cavity was filled with fetid pus.

Frank M., aged twenty-one, died at the Presbyterian Hospital of purulent peritonitis. I shall ignore in this paper the pathological conditions found at the post mortem examination, inasmuch as they have no bearing upon the subject under consideration.

The patient had been aware since boyhood that his heart was misplaced, and upon one occasion a physician told him that was the reason he was left-handed. He had never been very strong; but it does not appear that he ever had any serious affection; the cause of which could be assigned to his misplaced viscera.

In 1878, when he first came to the hospital, Dr. James Markoe, under whose care he was, noticed that not only was his heart perceptible in the fifth interspace of the right side, but also by percussion ascertained that this organ occupied the same relative position upon the left. He found also that the liver and spleen were transposed, but no further changes seem to have been noticed.

At the time I made the post mortem examination, I found externally nothing to indicate the great changes in the position of the internal organs, except that the right testicle was suspended at a lower level than the left. When I had opened the thorax and abdomen and laid bare the organs contained therein, the appearance to me was as though I was looking at the body reflected in a mirror. It was like the photographer's negative.

The heart first attracted my attention, and was found to be normal in every respect, but occupying, as already noted, a position upon the right side. It looked as though it had been pushed over to its present position without changing materially its relations with other organs. The right side was the pulmonary side and the left the systematic side, and in this respect the organ performed its function in a normal manner. The aorta starting from the left ventricle followed a somewhat irregular course, crossing over the right bronchus and going from there to the right side of the vertebral column, along which it descended upon the right side. The branches given off from the arch of the aorta were the two coronary arteries unchanged, the innominate going up the left side of the neck and giving off the left common carotid and left subclavian. While coming from the right portion of the arch were the right common carotid and right subclavian.

The lungs were reversed. The right lung was found to be smaller to allow space for the heart. it had two lobes.

The left lung corresponded in appearance to what is commonly the right lung, was shorter than its fellow, being pressed up by the liver, was broader, and had three lobes.

In the abdominal cavity the liver occupied the left hypochondriac and partly the epigastric regions, the large lobe to the left and the smaller ones to the right, the gall-bladder and everything else similarly changed.

The stomach and intestines were transposed. The stomach was partly in the right hypochondrum and partly in the epigastric region. The pylorus extended forward and downward toward the middle of the abdomen. The spleen was on the right side, and attached to the greater curvature of the stomach.

The cæcum was situated in the left iliac fossa, and the colon ascended on the left side and crossed from left to right side of the abdomen. From there it descended, and terminated in the sigmoid flexure upon the right side.

As already stated, the man was naturally left-handed. Hyrtl was the first, I believe, to advance the theory that we are normally right-handed because of the more direct flow of blood to the brain upon the left side. And this theory would be substantiated if all cases where the heart and great vessels were transposed were left-handed; but such is not the case.

A few years ago a theory was advanced that right-handedness depended upon natural selection. But the easiest explanation is that from earliest infancy we are instructed to use the right hand always in preference to the left. When a person with transposition of the viscera is left-handed we may call it a coincidence. In any other view, it would be extremely difficult to account for the far larger number of persons whose organs are arranged normally and yet are left-handed. In the cases that are noted in the journals I have not been able to find statistics enough to draw any inferences, for, when this condition is noted, right-handedness appears to be as frequently met with as left-handedness in cases where the viscera are transposed.

Peacock, in his monograph on Malformations of the Heart (T. Peacock, *Malformations of the Heart*, 22 edit. 1867) says that the most common of all the internal displacements is that in which the heart is placed upon the right side in a position corresponding to that which it should occupy upon the left, and that this displacement is always associated with more or less complete transposition of other viscera. Occasionally the heart is transposed. while the other organs are unchanged (Sur l'Ectopie de Papporeil de la circulation et particuliérement sur celle du cœur—*Rep, Gen. de'Anat. et de Phys. Pathol.*, t. ii. 1826, p. 1).

Among the earliest recorded cases are those of Servius and Schenkius in Rome in 1643 (Thomas Bartholinus, *Hist. Anat. Gent.*, ii. 29. Amsterodami, 1654); and one by Riolan in 1652 (Allen Thompson, *Glasgow Med. Jour.*, vol. i. 1863, p. 220).

The first case recorded in which the malformation was noticed during life appears to be that described by Morand (Méry, *Memoirs of Academy of Paris for* 1866) in 1666. This case seems to have attracted considerable attention at the time, and was said to have suggested to Molière the transportation of the heart and liver which he puts into the mouth of Sganarelle in his play of *Médecin Malgré lui*, published about the time this case was reported.

In cases of more or less complete transportation, the arteries, if they do not retain their natural positions, may be displaced in almost all conceivable ways.

Dr. Gamage (*N. Eng. Journ. Med. and Surg.*, iv. 1815, p. 244) reported a case in which the aorta arose from the right ventricle and the pulmonary arteries from the left ventricle. Mr. Abernethy (*Philadelphia Trans.*, 1793, p. 59) saw a child, ten months old, where the portal veins terminated in the vena cava, the liver being supplied from an unusually large hepatic artery. Mr. Douglas Fox (*London Med. and Phys. Journ.*, vol. li., 1824, p. 474) reported the result of a post-mortem examination in a case where the heart was transposed, and the aorta, after crossing the right bronchus, passed behind the lower end of the trachea, over the vertebral column, and pursued its usual course from there down the left of the spine.

For a very complete account of a case similar to the one I now report, and for an exhaustive study of the histology of such malformations, I will refer to Dr. Allen Thompson's paper in the *Glasgow Medical Journal*, vol. p. 220.

As regards the practical application of this case, it would be well to bear such abnormality in mind as a possible condition in cases brought to a physician's notice in an unconscious condition. It will readily be seen that considerable difficulty might arise in forming a diagnosis. In surgical operations upon the thorax or abdomen it would prove a serious complication, as, for instance, in colotomy, paracentesis abdominis, or pericardii.

Sterility in the Male.—Pajot has examined the spermatic fluid of over 200 men, æt. from twenty-five to sixty, and he emphasizes the fact, of which too little notice is generally taken, that in sterile marriages, oftener than one is disposed to imagine, the fault lies at the door of the husband. The spermatic fluid may be rich, ordinary, poor or insufficient, or absolutely worthless, —*Ed. Med. Jour.*,

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Academy of Medicine.—Dr. Whittaker will report an interesting case of "Irrigation of the Bowel in Dysentery," at the next meeting of the Society, Monday, October 30th inst.

Clinical Lectures.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

Reported by T. R. Coffman, M.D.

NASO-PHARYNGEAL POLYPUS.—POLYPUS OF THE ANTRUM.—RESECTION OF THE WALL OF THE ANTRUM.—TWO CASES.

Case I. This little girl, three years old, had had ordinary health until two months ago when some obstruction of the right nasal canal attracted attention. Soon after this the cheek was found to be slightly prominent and the eye full and projecting; examination of the throat showed a fleshy mass occupying the right posterior naris. The face at this time was scarcely disfigured, but after two months' progress a wonderful change has occurred. In the nose we find a fibrous body crowding to the outlet. The whole right side of the face is enlarged, but the most striking change is observed in the eye—exophthalmus is intense—the eyelids do not cover the orb, they are red, inflamed, and from beneath them a constant flow of pus, all sight is lost and the opposite eye, by reflex action, obliques to the inner canthus. The mass which plugged the posterior naris now hangs down in the fauces. All this has occurred in less than three months! What is this disease? Under the term Naso-pharyngeal Polypus is embraced a fibrous development which encroaches sometimes not only upon the nasal and oral cavities and pharynx, but involves the orbit and antrum; during its earlier growth it produces deformity alone, but if not arrested or removed it finally destroys life by pressure and obstruction, closing the œsophagus, rendering deglutition impossible and abridging and finally arresting entirely the function of the lungs.

These polyps show a wide range in origin, in the points from which they spring, most of them are attached to the turbinated bones, to the middle or superior one; they involve the periostium intimately—do not forget this point for it is of the utmost importance when we come to study the treatment. Again, the polyps spring from the antrum, and where this is the case they usually encroach first upon the nasal cavity, afterwards they extend backward and appear in the pharynx. Again they press upwards, the floor of the orbit is absorbed and the eye is thrust forward. You will find in Gross' "Surgery" a most graphic description of the progress and damage resulting from fibrous polyps springing from the wall or roof of the pharynx. They press, in fact, in every direction, producing in some cases that fearful deformity known as "Frog-face." In such instances, by pressure, the posterior portions of both superior maxillary bones are destroyed and the anterior walls pushed forward. Occasionally the polyp is attached to the base of the skull, the petrous portion of temporal bone, petro-occipital suture, or border of the foramen lacerum. Langenbeck reports a case in which the morbid growth by its pressure penetrated the bones of the skull and led to a destructive inflammation. Occasionally a fibrous polypus has a very limited attachment; some years ago, finding one in the nose of a physician, I caught it with a pair of forceps, and withdrew a ribbon-like mass several inches in length, half an inch in width, no force was required to withdraw it. Looking into the cavity, preparatory to suggesting some wash, I beheld another mass; this I seized with forceps, like the first, it yielded to but little force, out came another ribbon, broader, three-fourths of an inch wide, but not quite so thick. The attachments in both were so fragile that I did not find it necessary to use torsion; no hemorrhage followed. Where were these fibrous ribbons stored? There was no deformity of the face. They were probably folded upon themselves in the antrum. They had never given pain—they were simply inconvenient.

Dr. Gross mentions the fact that he had not seen the fibrous variety of polypi in females and seldom, if at all, in males below fifteen years of age. Our little patient is an exception in both, being a female and three years old. The diagnosis between the benign and the malignant is often difficult. A rapid development associated with a cachexia, and infiltrated neighboring glands will go far towards placing the growth in the class of malignant affections. Our little patient has one of these factors—rapid progress, and an anæmic condition suggests, if it does not fix, a dyscrasia; there is, however, no trace of gland involvement.

TREATMENT.

These polypi, whether benign or malignant, tend to destruction of the subject by their rapid growth, by their encroachment upon the oral and nasal cavities, finally by obstructing respiration and deglutition. If a part be destroyed, if indeed all be removed except a broad base, it is painful to see how soon the whole mass will be reproduced, even when the ligature can be applied the result is unsatisfactory from this cause. From this you will readily infer the necessity of a radical treatment, not only the mass must be removed but the root, the point of attachment must be destroyed; when the periosteum is involved, as it commonly is, it is better to destroy that membrane and expose the part to a limited caries than to leave any portion of the polypus with its ugly tendency to reappear. Force is added to this when you reflect that an operation this side of absolute destruction—the removal of a mere part, adds to the rapidity of reproduction in such hyperplasia.

How can the point of attachment be reached in this case? There can be no question as to origin—it is doubtless from the floor of the antrum and by extending upwards has dislocated the eye, and backward has appeared in the fauces, hanging from the palate on the right side; not a large part of the mass is seen in the nose. By avulsion through the anterior nasal orifice an accomplished surgeon, Dr. John S. Lewis, of Georgetown, Ky., has removed several large portions, but as soon as withdrawn the cavity was refilled by the crowding of the mass from behind. Avulsion fails in these cases because it is not sufficiently thorough.

The Galvano cautery has been used in some cases with good results, but unfortunately the cases are rare—it is usually impossible with the hot iron to reach the point of attachment. The same may be said of the Ecraseur.

The radical operations may be classed:

1. Excision of superior maxillary.
2. Osteo-plastic operations for exposing the cavity of the antrum and nose.
3. Trephining or resection of anterior antral wall.

1. Excision of the superior maxillary is often the only operation justifiable, although, severe it is in many cases the only procedure which offers permanent relief, by it we are enabled to reach those which involve in their attachments both the antrum, the base of the skull and posterior wall of pharynx. The disfigurement, a minor consideration of course, but one which should never be lost sight of, will not be great; nature compensates for the loss to a great extent; the dentists, our skillful co-laborers, supplies a palate and teeth.

2. The Osteo-plastic operation for exposing these tumors have all been attended with a moderate degree of success. Langenbeck suggested lowering the jaw by a transverse section so as to get to the tumor from behind. In a very large growth Dr. Cheever, of Boston, depressed both jaws. Ollier advised turning down the nose over the mouth by means of a ∩-shaped incision. Prof. Ashhurst, author of "The Principles and Practice of Surgery," reports a successful case by this method. Nelaton proposed dividing the hard and soft palate.

Various modifications of resection have been resorted to by surgeons in this country and Europe; a study of them will impress the student with the triumphs of surgical anatomy.

3. Trephining the antrum is often successful, as it is less severe and produces less shock to the system, I am disposed to adopt it upon this feeble, very feeble child.

I make, as you see, an incision down by the side of the nose, dividing the upper lip. I then displace the flap from the bone. The trephine is unnecessary, for the wall is so thin that I have broken it by the knife at one point—with strong forceps, I remove the bone and expose the cavity. The antrum is greatly enlarged and filled with a fibrous mass of medium consistence. It is free in every direction, excepting below, here it is firmly attached. With forceps you see me detaching it in masses. When the base is reached I scrape the surface of the bone. The effect of the removal is apparent at once, the eye can be replaced, the nasal cavity is clear and the mass in the pharynx has disappeared.

PROGNOSIS.

I am sorry to say the prognosis is unfavorable. You will remember that I adopted opening the antrum in preference to excision of the superior maxillary, on account of the great debility, the feeble condition of the little patient. It became necessary, as you noticed, to rest several times during the operation, so exhausted did the child become. Whether this shock was due to the anæsthetic, or to the severity of the operation, it is difficult to say, probably from both combined, and at last I was compelled to withhold further procedures, the circulation and respiration being fearfully embarrassed. The almost absent pulse, the infrequent breathing, in connection with a blanched face, evoked an aspect of danger, most perceptible to those immediately surrounding the table. It was impossible to carry far enough the scraping process upon the base of the tumor and the periosteum, this renders recurrence liable. Should the polypus reform, then there could be no question as to the propriety of removing the entire bone.

Case II. By the courtesy of Dr. Kearns, of Covington, I am enabled to show another case of Naso-pharyngeal Polypus. The patient, you see, is a boy about fifteen years of age. Several months ago it was supposed that he had nasal catarrh. When brought to Dr. Kearns, a few days since, he discovered a fibrous mass in the upper portion of the pharynx. There is as yet no deformity of the face and no appearance of the polyp in the nose. By an examination under chloroform Dr. Kearns finds that it is attached within the right nasal canal, he expects to operate soon, but what procedure he will adopt he has not yet decided. I hope to be able to present the case to you again and show you the result and probably the operation.

CLINICAL LECTURE DELIVERED AT THE GOOD SAMARITAN HOSPITAL. SERVICE OF PROF. JOSEPH RANSOHOFF.

CHANCROID WITH SYPHILITIC PAPULES.

Gentlemen: This young man before you has a sore on his penis, which is exposed or retraction of the prepuce. The ulcer, which is the size of a silver half-dime, is situated at the junction of the frenum and the mucous membrane and secretes a creamy pus. It has an appearance of being gouged out, the margin is a clean cut and the wound is round. The floor, however, is, as it were, worm-eaten in character, containing greyish shreds of an irregular form. When we touch the sore we feel no hardness, no induration. The glands in the vicinity, however, are considerably indurated, not singly, but the entire chain of lymphatics. We observe this especially in the lymphatics situated above Poupart's ligament. When we examine the skin we find no traces of recent cutaneous manifestations, either on the trunk, legs or thighs. As we examine the upper extremities we find that there is one part where the skin is not clear and that is the palms of the hands. We observe a number of irregular patches, not indeed much elevated above the surface of the skin, but still somewhat more so at the margin than in the centre. It is probable that the patient has picked off the scales that had formed. These patches are not to be seen anywhere else in the body, except possibly on the soles of the feet. We see further that there is no tendency for these patches to extend over the lateral margins of the hand.

On interrogation we learn that the sore is only of three to four weeks' duration. It has all the appearances of a soft chancre (chrancroid) and in addition to this the patient has a maculo-papular disease of the palms of the hands—an almost positive indication of secondary syphilis. We would naturally be led to infer that these symptoms were due to the sore on the penis. This is, however, not the fact. The sore is only an intercurrent affection, for we learn on further questioning the patient that he had another sore, a hard chancre, about one year ago. This was followed by secondary symptoms. As a rule six to eight weeks after the contract of a hard chancre roseola syphilitica appears ushered in with slight febrile disturbances. Attending these general symptoms a general eruption on the surface of the skin takes place, confined usually to the trunk, the extremities or the parts nearest to the trunk. This eruption is generally macular in character, resembling stains, as the rose spots in typhoid fever, but greater in number and of larger size. In fact the secondary symptoms of syphilis closely resemble in character the eruptive stages of the acute exanthematous diseases, only that the period of latency is considerably prolonged, and the concomitant systemic symptoms less pronounced.

After the first general roseola from which this patient suffered, he bore no evidence of syphilitic taint until two months ago when, as he says, the eruption broke out in the palms of the hands, consisting as we observed before, in nothing but papules. They are infiltrations of the chorium proper, and are in diameter from one-sixteenth to one-third and one-half of an inch. Had they been situated in other parts of the body they would have been elevated over the surface of the skin, but owing to the thickened epithelium in the palms of the hands and soles of the feet, they become simply large spots, lenticular in shape. The cellular infiltration in the deeper portions of skin interferes with the nutrition of its epithelial covering, this dies and is removed from the body in shreds. The palmar syphiliderm is usually associated with similar papules elsewhere; but they are always few in numbers. Again, there is a tendency for the development of papules near the apertures of the mucous membrane, viz.: the mouth, rectum, anus and the vulva in the female. In these mucous membranes you find them as true mucous patches. This you will find corroborated in the patient before you when you look into his mouth, by the appearance of pearly patches on his cheek, an excoriation of the mucous membrane of the hard palate and a little ulcer alongside of the molar tooth on the right side of the inferior maxilla. These mucous patches are nothing else than the same eruption observed on the palm of hand, but here bathed constantly in the secretion of the mucous membrane, in the course of time the epidermis becomes opaque, is washed away and these little excoriations remain.

Such a condition we find in nearly every case of syphilis of eight to twelve month's standing, which remained either untreated or not amenable to treatment.

The particular interest in this case centers in the one fact that he has a soft chancre in addition to his syphilitic manifestations. It teaches us the important lesson that an individual, the subject of syphilis, may contract a soft chancre; he cannot contract a hard chancre; hence, we may formulate this idea in the following aphorism: a hard chancre and a soft chancre are not the same disease, even if clinically they present similar relations. It is true a man who once had syphilis can after a long time again contract a hard chancre, but we will never find that a person who has the well-marked syphilitic symptoms presented by this patient contracts a new chancre.

This is a most important point in distinguishing a hard from a soft chancre.

I will now call your attention to another feature in this case. As we examine this man's head we find that his hair is thin. There are no lesions of the scalp, not even the presence of dandruff, and yet when I slightly pull his hair it comes out in great abundance. What is the trouble? The patient has general alopecia, which is an early symptom of syphilis. It may be of three kinds. In the first place, two or three months after the inception of the disease, the hair begins to fall out on account of the general interference to nutrition, as we find it depending on precisely the same cause in typhoid fever and in many of the acute exanthematous diseases. Here there is no lesional disturbance of the hair follicles, but only a malnutrition of the hair. It can therefore be restored when nutrition is improved. We have, however, in secondary syphilis another form of alopecia, in which papules are found on the head as well as on the hands, papules which can be seen by the physician on close examination, and recognized by the patient by the catching of his comb in the scalp when endeavoring to dress his hair. In this latter instance the hair follicles are destroyed and the hair will never return. The alopecia is therefore permanent, but fortunately the papules developed here are as a rule small in size and few in numbers. In addition to these we have another form of alopecia in tertiary syphilis depending on gummata, syphilitic tubercles and erosions. They necessitate a permanent loss of hair.

One important word about the communicability of syphilis. This is generally affected by the mucous patches. They are therefore most important, clinically as well as etiologically. In every doubtful case look into the mouth and if mucous patches are found, the patient is in all probability syphilitic, we then look for other manifestations elsewhere to corroborate the diagnosis. Clinically these mucous patches are most important, because from them a hard chancre may be developed. In the vast majority of cases a hard chancre results from inoculation from mucous patches. If we examine the hard chancre of a female we see it no larger than the finger-nail, and, if the infiltration disappear in one or two months, there is no danger of communicating syphilis by this means. The mucous patches, however, involve the whole mucous surface, even to the anus, there generally being about half a dozen in the genital tract. But not alone about the genitalia, also in other places, as the lips, these mucous patches are more dangerous than the virus of the hard chancre itself. A week or two ago you here witnessed a hard chancre on the lips produced by osculation. Individuals thus afflicted ought to use their own tableware, pipes, etc., so as to avoid contaminating others. A short time ago a whole community in Pennsylvania were infected with syphilis by an individual who had contracted syphilis in Philadelphia, and on returning home inoculated a large number of boys and girls by tatooing their arms with some pigment substance mixed with his saliva.

Can the palmar eruption which this man presents be confounded with anything else? Ordinary psoriasis is not to be found in palms of the hand. In eczema the fingers are also attacked and the skin is generally roughened, without the tendency to regularity or the formation of circles as in this case. Another feature of eczema is an intolerable itching, while here subjective symptoms are entirely absent.

We will put this patient now upon the so-called mixed treatment, mercury with iodine. There is no better form than the bichloride of mercury with the iodide of potassium, one-fortieth grain of the former to fifteen grains of the latter, to be given three times a day. This combination will prove better than anything else.

CASE II. This patient, a female, has the identical affection as the one just dismissed, with the exception that she has a large number of papules, but these are all small, not larger than a pin's head, rough to the touch and disseminated over the entire surface of the body: face, back, chest, arms and thighs. We do not expect them, however, on the palms of the hands, as here they are generally large blotches. These papules are indicative of the earlier stages of syphilis. They are very slight, the apices form little scales which readily come away when the papule disappears and a little spot is left. We class this therefore, as a maculo-papular syphilide, with the presence of papules and spots at the same time. They are of a yellowish-red appearance and in this respect do not differ from other cutaneous affections. We also find the same concomitant symptoms as in the other case: the sore throat, engorgement of the glands and in addition enlargement of the epitrochlear glands. On the right tonsil there is a well-marked patch. There is an entire absence of any subjective symptom, no itching, the patient says she never felt better at any time. For a month she did not know that anything was the matter with her, the appearance of the eruption first informed her that she had become a victim of syphilis.

The treatment will be the same as in the other, with the exception of the iodide, because the disease is more recent. We hope that in six to eight weeks these symptoms will disappear, which in the other case will require several months. In both, however, there will remain a tendency of recurrence of the disease.

DR. MARION SIMS sails for Europe shortly, and will spend the winter in Rome for the recuperation of his health.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of October 16th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary*

REPORTS OF CASES.

Septicæmia Preceding Delivery.

DR. J. T. WALLINGFORD made the following remarks in reporting this case:

Septicæmia in the puerperal female, aside from the epidemics of puerperal fever—so-called—is not a very uncommon affection. It is the fortune, or misfortune, of almost every practitioner to encounter such cases every year. These sporadic cases, however, are usually produced by self-infection; due to a retention of a fragment of the decidua, but chiefly on account of retained lochia and blood. Symptoms of septicemia, of course, do not appear in these cases until some time after delivery; and they are either slight or well pronounced, in proportion to the amount and character of the septic matter absorbed. But septicemia developing before delivery, in a sporadic case without the receipt of an accident or other assignable cause, I believe to be exceedingly uncommon.

Self-infection as above stated, is almost always the cause of sporadic cases of puerpural septicæmenia—*pure and simple*; and that this infection should occur in an apparently normal physiological process of utero-gestation, need only be mentioned to excite some degree of surprise.

Ahlfeld says self-infection during pregnancy and labor belongs to the greatest rareties. That it does occur occasionally, however, he admits, and in proof reported a case to the medical society of Giessen, in November, 1881, in which self-infection occurred during pregnancy, on account, as he thought, of placenta previa. Severe febrile affection before labor, spontaneous delivery, sharp septic symptoms, and death on the tenth day after labor were the features which characterized this case.

In this connection I am able to report a case from my own clinical record which presented the following symptoms:

Mrs. A., American, twenty-two years of age, pregnant for the first time, and at or about the full term. She had the appearance of having always enjoyed good health and at present seemed to be well nourished. Nearing her pregnancy she had had no illness, accident, or mishap, and had been unusually happy in anticipation of the expected event which she had most profoundly cherished. Two days before this consultation she began to grow ill and now suffered with a severe pain in the head, with loss of appetite, great debility, muscular weakness and trembling, furred tongue, bowels and urine, stated by the patient to be in a normal condition, the pulse 105 and weak, and the temperature in the axila 102 F. Ten grain doses of quinia were ordered to be repeated three times a day in conjunction with other palliative treatment. This was continued for two days without any apparent change; the temperature remaining the same.

At 7 a.m., the fourth day after my first visit, labor pains came on, but were very irregular and ineffectual. The os was soft and dilatable, but dilatation was exceedingly slow. The pains continued to occur at irregular intervals for eighteen hours when they suddenly ceased. Every effort was made to arouse uterine action without avail. The only alternative seemed to be in the use of forceps. The patient was entirely exhausted and the head had not entered the pelvic brim. The os was dilated and the passage clear, but there was neither intrinsic nor extrinsic force for the expulsion of the child, and instrumental aid seemed to be demanded. The forceps were introduced without difficulty, and by very slight traction in the direction of the pelvic tract, delivery was easily affected. The placenta came away in a few minutes, in its entirety and apparently healthy. Antiseptic treatment was immediately instituted; but, notwithstanding every precaution and a vigorous course of treatment, the symptoms rapidly grew worse, and on the day after delivery the temperature had reached 104½. The morning and evening temperature throughout the case varied from one to two degrees, but never ascended above 104½. This patient was nearer related to me socially than the ordinary, and I was enabled to make more frequent and closer observations than would have been possible under other circumstances. The accompanying temperature scale therefore, is correct, as made at the time of my visits, both before and after delivery.

	DAY	M.	E.	REMARKS.
Before Labor	1	101½	102	
	2	101½	102½	
	3	101½	102½	
After Delivery.	1	102	102½	Delivery.
	2	102½	102½	
	3	103	104½	
	4	103	102½	
	5	102	104	
	6	101½	103½	
	7	102	102½	
	8	101½	103	
	9	102	104	
	10	103	104	
	11	103	104	Death.

No tenderness over the uterus or other inflammatory symptoms developed throughout the illness. The pulse became more feeble and quick, the respiration more hurried, perspiration constantly bathed the surface, a ghastly pallor and an anxious expression rapidly stole over the face, and brought with them that very generous and amiable disposition, so characteristic, and which makes these patients so painful to behold. An unconscious evacuation of the bowels with active delirium at night, only told too well that dissolution was rapidly approaching, and on the tenth day after labor she quietly died while talking unconsciously to her friends.

That this case presented septic symptoms before delivery, there is no doubt in my mind; but how they were brought about, whether from external or internal conditions, is a question that I am unable to answer. The case mentioned above, as reported by Ahlfeld, he believed to be due to placenta previa which complicated the case. It is easy to understand how a small portion of a placenta attached to the os or cervix uteri from its position and relation to other parts, as in placenta previa, may become detatched, decompose, be absorbed by the abraded surface and produce septicæmia. But in my case there was no placenta previa or other abnormal condition so far as could be ascertained. May we not, however, with propriety, attribute these cases to a pathological change in the placenta or membranes which is as yet undetected?

DISCUSSION.

Dr. Cleveland enquired whether there was any acute infectious disease as typhoid fever, scarlet fever, etc., present in the neighborhood at that time.

Dr. Wallingford replied that such was not the case, though the patient had had excessive diarrhœa. Large doses of quinia had been given three days before labor pains came on. The patient was rather improved by the quinine. The lochia were good—at least quantitively, for chemically they could not be examined—until the day before death. No inflammatory symptoms developed, the case was purely septic before, during, and after delivery. There was no jaundice, the skin only showing a dusky discoloration or pallor, as in septic diseases. The child was born alive and lived for two months afterwards, when it died from inanition.

Dr. Thrasher did not consider the temperature line indicative of septic fever. In septicemia there is a greater breadth of temperature; it may run above 102 and fall to normal and below it. Here the temperature of 104° may have been due to ordinary increase in delivering.

In his estimation there was something other than septicemia present. It might have been malaria of a typhoid character. The symptoms point to the latter, though its course does not point to typhoid fever. Puerperal dysentery is not uncommon.

Another point to take into consideration is the oxitocic properties of quinia. Thirty grains a day for three days may have caused labor, which might not have taken place had not the disease required these large doses.

Sometimes remittent fever is accompanied with diarrhœa or dysentery. This may have been the disease.

Dr. Cassat said he had great fear of giving quinia in pregnancy, either in large or small doses. In a number of instances the administration of quinine during pregnancy had got him into trouble. He remembered one case particularly where he had given this agent combined with iron in one grain doses three times a day. It produced a miscarriage and the lady afterwards came and wanted the prescripion repeated for that purpose. He had given the tincture of iodine, fifteen drops three times a day, in such cases with the best effect. A lady in Cumminsville troubled with malaria, expected to be confined in six weeks. He gave her the iodine with such a marked result in breaking the chills, that her neighbors all got the same remedy for that purpose. He had always succeeded in arresting intermitent fever with iodine.

As regards the case just reported he considered it rather typhoid fever than septicemia.

Dr. McMechan said he was surprised at the previous speaker's uniform success with iodine for intermittent fever. He had given the remedy a thorough trial in at least twenty cases, principally acute, and continued it for a number of days and weeks without curing one case.

Dr. Drury remarked that he had given twelve grains of quinia daily in the ninth month of pregnancy without causing trouble.

Dr. Wright said that the discussion again proved how different the experiences are of different men. He had given quinia as much as twenty, thirty and forty grains a day without any injurious effect whatever. He had given it purposely for inertia of the uterus without accomplishing his object. He agreed, however, with Dr. Cassat in regard to action of the iodine in ague. In two cases he had given five drop doses three times a day with the effect of breaking the chill on the fourth day. Dr. Wallingford's case was interesting to him, because although he had seen a number of cases of puerperal septicæmia, he never withessed one where the lochia remained free to the last day. There is generally an arrest in the beginning or during the course of the disease. To him the case just reported presented characteristic features rather of typhoid fever than puerperal septicæmia.

Dr. Wallingford said, in conclusion, that when he said the lochia were fair, he meant as to quantity. They may have been different as to quality, but showed no appreciable characteristics. It was not, therefore, of such a nature as is generally seen in puerperal septicæmia. He was greatly surprised at the criticism offered against the use of quinine in pregnancy. It is but a few years ago that Dr. Campbell, an eminent gynæcologist of Atlanta, Georgia, read a paper in this city at a meeting of the American Gynecological Association, when this gentleman expressed his views very emphatically in stating that he had given quinine in his malarious district without injury in pregnancy.

Any one who has treated malarial fever will not withhold quinine on this account in this state. When given in smaller doses the effect may be different. He had read somewhere that one-fifth to one-fourth of a grain frequently repeated would bring on labor. He had one case where ergot was not retained, in which he gave one-fifth of a grain of quinia every fifteen minutes and suceeded in bringing on labor pains.

Cystotomy for Papilloma of the Bladder.

Dr. Jos. Ransohoff reported a case in which he performed cystotomy for the purpose of relieving cystitis. After the bladder had been opened a papilloma in the fundus of the organ was discovered and removed by scraping it off with a Volkmann spoon. The patient made an excellent recovery.

DISCUSSION.

Dr. Young said when Dr. Ransohoff began to report his case he (Dr. Y.) would not have anticipated a papilloma, but have been led to regard it as a case of cystitis. He had at the present time an analogous case where there was great pain in the rectum, and acidity in the urine. He considered it a case of cystitis because this affection is hereditary in the family. Consequently he neutralized the urine and placed the patient in a horizontal position. He gave one-grain of morphia in suppository, considering it preferable to opium. (He never gave morphia hypodermically). He was positive there was no stone. In many instances of cystitis there is an irregular thickening of the posterior part of the bladder or there may be a clot of blood which might lead to the supposition of a tumor. All cases of tumor of the bladder that the speaker had had the opportunity to examine post-mortem he found located in the posterior wall. He had occasion to operate several times and just as the previous speaker thought, that he might have used too much force.

Dr. Ravogli considered the case just reported very interesting, because tumors of the bladder are rare and when present difficult of diagnosis. It is only in late years that they have been duly recognized. Ultzmann, of Vienna, first gave the main points of diagnosis. He enumerates these as a tender glans, hemorrhage from the bladder and great pain in the rectum. The latter factor is of special value in settling the diagnosis. The form of tumors observed in this viscus have been mainly papillomatous, but Ultzmann has also observed polypi, especially in the fundus. The endoscope ought to settle the diagnosis. Grünfeld, of Vienna, who first introduced this instrument into general notice, says he can see the walls of the bladder by means of reflectors. The speaker had given the instrument a trial, but found that the mucus of the bladder makes it impossible to see through the endoscope. Dr. Ransohoff's case required great courage to operate, but the operator was justified in its being a villous cancer. The bleeding was a dangerous symptom and it was very fortunate that it could be arrested.

Dr. Ransohoff, in concluding the discussion, said that although these cases have but recently been made the subject of special study, such cases have been reported over twenty years ago. It is probable that they would not be so rare if they were operated on sooner. Persons undoubtedly die from these tumors, who might have been saved if they had been operated on in time. He was obliged to the last speaker for mentioning the endoscope. In this case it could not be introduced on account of the great pain it caused, and even if its introduction had been possible nothing could have been seen. The diagnosis was not positive between tuberculosis and chronic cystitis, but as the latter is caused by the former it was hoped that the pain would be relieved by cystotomy.

Avena Sativa in Nervous Affections.

Dr. Cassat called the attention of the Academy to the articles recently published in various journals on the use of the concentrated tincture of avena sativa in the cure of the opium habit. It was not for this purpose, however, but for the treatment of various nervous diseases that he administered the remedy. The first case was that of a young lady who had been under his treatment very often for extreme nervousness. She was troubled every night with such harassing dreams as to wear her out. The speaker then gave her the concentrated tincture of avena sativa, and the patient rested well ever since without dreaming.

A medical friend of his mentioned the case of a man who had posterior spinal sclerosis, followed by paralysis, so that the patient was unable to walk. The avena was given with such marked effect that the patient recovered in two days. Another young man similarly affected recovered in six weeks.

The speaker had four cases in all which completely recovered. None of the patients had the opium habit. The dose administered was fifteen drops, three times daily, of the concentrated tincture.

(As none of the members present had had any experience with the remedy there was no discussion on this subject.)

Mechanical Apparatus to Relieve Nasal Deformity.

Dr. Brown enquired whether any of the members present had had any experience with mechanical appliances for deformities of the nose. He had at the present time a lady under his care who, in consequence of specific trouble, had sustained a loss of the vomer. The nasal bones were intact, as also the nasal cartilage, but the nose had fallen in. The patient had been sent to the speaker for the purpose of relieving the deformity by mechanical means. It was to him yet a problem, and possibly to gain any points in this connection he made mention of the case. There is no support to the nose behind; the top is turned up and the floor of the inferior nares, where support ought to be had, is almost at a right angle. To get the proper support to an apparatus is the great problem. If an apparatus be put in each nostril, there will be danger of the patient swallowing it when she lies down. After trying a number of things the speaker finally concluded to make two pieces of very light metal, insert them a little inside and from the former part bring in as spring, curving it backward to get support from the nares. To prevent swallowing he would put a little piece under the nose, attaching the two separate pieces together. Enough force may be thus secured to prevent further deformity. The sense of smell is gone and the sensibility of the nose is considerably impaired. He would ask whether he might endanger the person by exerting too much force.

Dr. Cassat was of the opinion that any metal pressing on these parts might cause trouble. He would cover the wire with rubber tubing, which will not interfere with the apparatus, and yet prevent any ulcerative process that might be caused by the pressure of the metal. When the disease is arrested, however, there is no more destructive process.

Dr. Brown said that in his case the progress of the disease was over.

IN MEMORIAM.

The Committee of the Academy to whom was referred the subject of making a report regarding the death of our late members, Dr. N. Foster and Dr. W. H. Mussey, have the honor to submit the following:

Whereas, During the vacation of the Academy two of its members were called to their final rest. The first to die was Nathaniel Foster, M.D., who departed this life on Sunday, July 16th, after an illness of about three weeks. Professor William H. Mussey died on Monday, July 31st, after an illness of two days.

Their usefulness and abilities were so well known to us, and have been so extensively commented upon by different members of the profession at meetings called in relation to their demise, in the medical journals and newspapers, that your Committee would find it very difficult to add anything that could express the sense of the Academy more ably or with warmer feelings of respect for two so distinguished members of the profession, and it is with most profound regret we are called upon to mourn the loss of our fellow members.

Therefore, as an expression of the sense of the Academy, be it

Resolved, That in the death of Dr. Nathaniel Foster and Dr. William H. Mussey the profession has lost two distinguished members and the community two highly valued citizens.

Resolved, That our sincere sympathy is due and is expressed for the families of the deceased.

Very respectfully,

C. S. Muscroft, M.D.,
Joseph Ransohoff, M.D., } Committee.
E. W. Walker, M.D.,

Selections.

MEDICINE.

Infectious Pneumonia.—By Germain Sée, *Deutche Medecinal Zeitung;*

Croupous pneumonia was formerly thought to be a general disease with local symptoms, caused by the efforts of the system to throw off this morbid matter; later we accustomed ourselves to treat the disease as a local inflammatory process. At the present time, on the contrary, there is an effort being made in Germany ("Traube Conheim, Jurgensen), also in England and France, to go back to the old theory with few modifications. Traube advances in favor of his views (1) that the disease has a distinct prodromal stage; (2) that the fever may precede the localization in the lungs by 1—3 days; (3) that the fever ends on the 7th, 8th or 9th day by crisis; (4) that the local symptoms may continue to exist after the crisis; (5) that the fever of pneumonia is analagous to the fever of erysipelas." Sée's answer is: (1) that the prodromal state is an exception, and as a rule it is absent; (2) he calls attention to the defectiveness in the methods of examination, and the skill of some individuals to examine patients; (3) he mentions that the disease may end on the 5th and 6th day, or even 3rd or 4th day, or may continue to the 10th, 12th and 15th day; (4) that after the formation of the fibrinous exudate, even after the fever has disappeared, we cannot conclude that the inflammatory process that caused the exudation still exists; (5) he next asks proof that erysipelas is a general disease. According to this he thinks ordinary croupous pneumonia is a localized inflammatory process of the lungs. But the question arises, should pneumonia be classed with infectious diseases, e.g., does it depend on the admission and multiplication of small organisms that belong to the group of fungi? Sée maintains that the pneumonias of intermittents (pneumonia paluderne), erysipelas and typhus, are beyond a doubt dependent on specific infection. With these we may class the epidemics of pneumonia noticed as sequelæ of exanthematous diseaes, scurvy and influenza. But beside these to a certain extent secondary pneumonias, observations have been made in epidemics of primary pneumonias. (Author gives a complete classification of the described epidemics.)

Sée makes a distinction between prison, school or village, house or family, and finally city epidemics. Certain cases of these epidemics are characterized by typhoid or asthenic appearances, an atypic temperature curve, that shows no relation to severity of the general or localized symptoms, by a frequent bloody, sometimes fetid expectoration. Often the pain in the side is absent, while in other cases, an indefinite pain is present over the whole half of the thorax. The disease does not make its appearance suddenly with a distinct chill, but there is a marked prodromal stage, and the chills are frequently repeated; the local affection attacks by preference the apices of the lung with a tendency to spreading (Pneumoni Migrans). Almost constantly there is enlargement of the spleen and albuminuria due to parenchymatous nephritis; not unfrequently there is marked icterus present.

Pleuritis is many times present, and fibrinous or hemorrhagic pericarditis is often a complication; the duration of the disease is much more protracted, and the prognosis not as good as in ordinary pneumonia. If a cure is effected it takes place by lysis and not by crisis.

It is held by some that the pathogeny of these epidemic infectious pneumonias is the same as in typhus, and on account of the primary localization of the typhus germ in the lung, the affection is termed pneumotyphus. Others are of the opinion that the disease is caused by a micro-organism entirely different from the typhus germ. It has been shown in a number of instances that sewer gas has exerted an influence in the breaking out of some epidemics; but the same theory has been advanced as a cause of typhus epidemics.

This disputed question can only be settled if some one succeeds in isolating the pneumonia germ, and shows it to be different distinctly from the typhus germ.

Sée has been very skeptical with regard to the theory advanced by Klebs, that the so-called monas pulmoneli is the cause of pneumonia. He thinks that the difference between the ordinary bacteria of the sputa and monas pulmonale is only in the name given it by Klebs.

According to Sée the contagiousness of infectious pneumonia is very doubtful. The majority of authors and especially those who have had an opportunity of observing epidemics in cities, deny contagion entirely, such few who still advance the theory of contagion have not had an opportunity of observing epidemics in large cities. Sée, briefly recapitulates; there are two classes of pneumonia (1), the ordinary croupous pneumonia with a local inflammatory process; (2) a pneumonia depending on specific infection, resembling the former, with regard to local symptoms and anatomical characters, but differing with regard to (1) its infectious character, (2) the tendency to attacking other organs, such as the spleen, kidneys and serous membranes, (3) and finally its epidemicity. C.W.T.

The Treatment of the Severer Forms of Neuralgia and Muscular Rheumatism by Means of Massage and of Methodical Muscular Exercise.

—Translated from the *Deutsch Med. Zeitung*, (Dr. J. Schreiber,) and published in the *Medical Press.*

Gentlemen:—If you take up the most recent treatise on neuralgia and muscular rheumatism you will find in the comprehensive works either no mention whatever of massage as a method of treatment, or its name barely mentioned. As far as I know among modern authors, it is Benedikt alone, who freely and without prejudice has laid stress upon the powerful action of massage. In regard to surgical diseases, the employment of massage has obtained an entrance everywhere since Stromeyer and Volkmann appeared in favor of this method of treatment.

The obstinacy and painful character of neuralgia generally compel the attending physician to make use of the whole register of available methods of treatment one after the other, from mustard plasters to commence with, to attacks at the hands of the surgeon, from quinine to arsenic, from belladonna ointment and morphia injections to electricity and the actual cautery, from the simple diaphoretic to the energetic cold water cure.

When at last the endless array of means and medicaments has been exhausted, and the physician blindly brandishes his weapons before the malicious demon "Neuralgia," then is the despairing patient packed off to a climatic *Kurort*, in order that change of air may complete the miracle.

I have, however, in my calling, opportunities of seeing that this "Deus ex machina" thus appealed to in time of utmost need fails to do his duty, and the patients as before retain their neuralgia, their muscular rheumatism.

When some years ago the reports about the powerful action of massage forced their way into publicity, I joyfully greeted them, and now, in an already considerable number of cases, I have had the satisfaction of achieving a surprising and durable success by the use of this method of treatment.

Permit me here to say emphatically that I have drawn my results not from mild cases of brief duration, but from the successful treatment (*Heilung*) of severe, inveterate cases of neuralgia and muscular rheumatism that have persisted for years, and that had been treated without good result by all the other methods.

The short space of time allotted to my address lays upon me the duty of touching upon the most important points only of this method of treatment.

From the circumstance that the pathological anatomy of neuralgia and muscular rheumatism is up to the present a *terra incognita*, the conclusion may *à priori* be drawn that all methods of treatment can be founded upon hypothesis only.

Concerning the changes in the sensitive nerve apparatus, we know as good as nothing.

These changes are inaccessible to the present therapeutic methods of reseach. To this hour such a darkness rules over the existence of neuralgia, that Erb considers all views that have taken a decided shape as to the nature of neuralgia to be premature, and Senator, in his introduction to the "Diseases of the Apparatus of Motion," says:

"Muscular rheumatism is a completely indefinable rubric that has to receive all those painful affections that have for their seat the muscles, or their neighboring parts that can not be otherwise classed; it may be said of it, as was said in that old grammatical rule:

> "Those pains that can't be otherwise defined
> All in the class called rheumatism you'll find.
> (Schmerzen die man nicht definanren kann
> Sieht man als rheumatismus an.)"

Both diseases, however, neuralgia and muscular rheumatism besides the unclearness that shrouds them, the great painfulness and the functional disturbance that characterises this also in common, that they sometimes bid defiance to all the hitherto available methods of treatment.

What now is the physiological action of massage and methodical muscular movements?

It is a complicated one. Many factors come into play, quite as much as in electrical treatment.

We have mechanical, thermic, trophic, and, most probably, molecular influences at work. Accurate observations teach us that sometimes the thermic, sometimes the vaso-motor action is the predominant one. One of the most familiar examples is the mild neuralgia caused by cold, and dissipated by the action of warmth. If in such a case massage be employed in place of warmth, the neuralgia disappears more rapidly. In this case the action of massage would be principally thermic—a conception that corresponds to the ordinary physical laws, according to which moving force can be resolved into heat.

As muscles attacked by neuralgia seek to withdraw themselves from activity, this inactivity reacts upon the blood supply. It is shown by experiment that the bloodvessels of muscles at rest contract, while those of muscles in motion dilate. The lessened blood supply leads to diminished irritability of muscle. At the same time the chemical changes that go on in muscular tissue fall behind during inactivity, so that accumulation of effete material takes place, and this also serves to check muscular function.

Massage, in the same manner as muscular contraction, causes an increased blood supply, the blood-vessels dilate under the mechanical irritation, and the artificially produced hyperæmia serves the purporse of carrying off effete material.

From what has been said, it will be clear that muscular movements, active as well as passive, assist the action of massage, and Metzger also has credited them with posessing a high value. For myself, I have no hesitation in claiming for them the lion's share of the success that follows the employment of massage. We have, however, another factor to consider. If it is true that in some neuralgiæ the pain arises in part in consequence of the pressure of exudation within the nerve sheath, massage will have the effect of softening and pressing back the exudation into the lymph channels.

Berghmann's notion may be here mentioned—that through the mechanical action of massage the nerve becomes numbed, that it for the moment loses its sensibility, so that it gradually diminishes.

Whatever may be the explanation of the process, the fact remains that, by the energetic and long-continued employment of massage, combined with methodical muscular movements, a cure can be effected in those cases of neuralgia and muscular rheumatism in which all other methods of treatments have proved ineffectual.

I must, however, narrow the limits of this assertion to those cases of neuralgia in which large groups of muscles are affected, such as ischiatic and humeral neuralgia and in which no complete intermissions from pain occur.

Neuralgiæ of the head and face, which attack groups of muscles, and only occur periodically, are certainly relieved by massage. The paroxysms are delayed or shortened, but recurrences are prevented only in the rarest cases. The explanation of this may be sought in the fact that the forehead, nose, and cheeks only permit a very limited use of the mechanical treatment, and that, in particular, the so-called muscle-tapping cannot be carried out over the above mentioned localities.

It now remains to explain the mode of procedure as briefly as possible—more briefly, in fact than the extent of the subject demands. There can be no doubt that the best way of learning the details of the treatment is by autopsy—actual observation; but as those who first employed it could not have learned in this way, it will be clear that personal observation is not indispensable. When the broad principles are once laid down, each physician must assimilate the details of the method for himself.

Metzgar divides the manipulation into four divisions:

Gentle stroking.
Hard rubbing.
Kneading.
Knocking or tapping.

In neuralgia only the two last methods of manipulation are suitable, but to these should be added "pressure."

In what manner the individual fingers, the fist, or the knuckles are to be used, each medical man will find out for himself if he only keeps in view the object of the treatment, and this is, to thoroughly work up every structure affected by the neuralgia from the very bottom. During manipulation the locality operated on must be borne in mind, particularly the relation of the soft part to bones. The latter must be dealt with carefully. The edges of bones are much more tender than muscles, and if too much force be employed on the part of the masseur, injury to the bones may possibly occur. The manipulation should always commence with pressure; this should be followed by kneading, and this by knocking or tapping.

Pressure over certain parts, as, for example, the fossa supra-spinata scapulæ, can hardly be performed in any other way than by the tips of the stiffened index, middle and ring fingers. Pressure on the larger surface of the scapula is best effected by the firmly closed fist. If it be advisable to increase the force, it can be done by using the knuckles. If still more be desired, metacarpo-phalangeal joints are to be employed.

Pressure must occasionally give place to pushing or digging down with the finger tips when the depth between groups of muscles is to be reached—for instance, on the inner side of the thigh, between the rectus internus and group of muscles springing from the os pubis. Here and there the thumb alone is to be brought into play.

In kneading, the word alone sufficiently indicates the method of manipulation. The part operated on is to be grasped between the thumbs on one side, and the four fingers on the other, and thoroughly worked between them. The thorough kneading of large groups of muscles is the most laborious part of the manipulation, and requires strong thumbs.

Tapping, or knocking, is less fatiguing. The edge of the flat hand is here employed, and the muscle should be struck transversely as well as longitudinally, care being taken to keep clear of the edges of bones. The force to be employed in the various parts of the process varies according to case and time—the more inveterate the morbid process, the more force must be employed in treatment. If the patient be too sensitive, the attendant must be the more cautious and gentle.

In almost all cases in which massage is employed, after one or other "sitting" extravasation of blood will appear in the parts operated on, and the patient will complain of pain in the discolored spots. These must be left at rest until the color again becomes normal.

With the exception of increase of tenderness, these bruises have no other injurious consequences, and it has even been noticed that, where this bruising has taken place, after some days the muscles act more freely and the neuralgic pains become less.

As regards the length of time during which the manipulation is to be employed on one and the same part of the body, this must be decided by the stubbornness of the case and the resistance of the soft parts. As a rule one to two minutes will suffice, so that it will take ten to twenty minutes to operate on ten different localities. Between the successive manipulations pauses for rest should intervene, as well in the interest of the patient as of the operator. It is important that at the commencement but little force should be used; this should be developed gradually as is thought necessary. Sudden and violent handling causes fear, and is not well borne. Massage may be carried out with the patient in any posture.

When, as in ischialgia, the horizontal posture is necessary, the patient should be placed on a hard non-elastic couch, as, if the couch be elastic, the strength of the operator is wasted. Ladies undergoing this treatment should wear a dress of light dark-colored flannel, consisting of wide drawers and a suitable blouse. Linen does not do, as it glides too much under the hand, and fatigues the fingers of the operator.

The pain produced by the treatment is occasionally so great that the patient has not sufficient nerve to remain quiet. In such a case a third person is needed to hold the limbs.

After a "sitting" the patient is generally tired, sometimes exhausted. The temperature is raised one and one-half to two and one-half degrees, and the pulse accelerated. The pains set up by the massage subside after from ten to thirty minutes. The patient desires rest, which should be permitted him. For this reason the active and passive muscular movements that are made use of should precede the massage. To prevent misunderstanding, it is well to state distinctly that the patient is in a better condition for the methodical movements after the manipulation than before, and that is only on account of the fatigue that has been recommended to operate in the above-mentioned order.

If pyrexia sets in, the massage must be stopped at once. It is well after massage has been employed, daily for about ten days, to give one or two days rest.

It is not necessary that the treatment should be always carried out on the uncovered skin; the parts intended for operation may also be oiled, and should then be covered with a woolen covering.

With regard to the methodical muscular movements, it may be said that all those muscles capable of being put into movement should be, and as at first this cannot always be done actively it should be done passively. A thorough acquaintance with the anatomy of the muscles, and of the pathological action of each individual suffering muscle will enable the physician to have a clear idea as to what muscle should be exercised.

For the active exercise of the various muscles many simple contrivances may be employed. They render the labor light and economise time, as the patient can often use them himself. Many patients have not the courage themselves to make movements that are painful, but they give themselves up to their medical attendant "auf Gnade und Ungnade," and will bear patiently the greatest pain, and this with an abandon and victim-like submission that is singular to contemplate, and that is heightened, if possible, by any sign of approaching improvement. The physician must not commit the error of giving up the treatment if after three or four weeks no improvement sets in; for two or three months he must not allow his diligence to slacken, nor his courage to fail. Gussenbauer reports cases that required two hours manipulation daily.

In proportion as the painfulness of the neuralgia or rheumatic processes diminishes, the muscular movements will be easier and more energetically performed; massage of the individual parts will require less time and labor; the active movements, in which the aid of the attendant will have been before required, will be by degrees performed independently.

It is well to state that experience has shown that no method of practicing massage is universally successful. The same results are obtained in different ways. Whoever has practiced massage for any length of time, will, encouraged by his success, follow ways of his own. Whoever will make use of this method of treatment must have a certain disposition thereto, a certain degree of manual dexterity, accurate knowledge of the anatomical relations of the structures operated on, great perseverance and patience, and then he will succeed without the advantage of learning from demonstrations. He must, however, have a clear conception of what he is aiming at, every movement of his hand must be guided by a consciousness of the end in view, and in order to enjoy the pleasures that attend success, he must enter upon the treatment of each individual case in confidence in his method of cure.

If once a case hitherto declared incurable has been restored to health, future cases will be undertaken with the greater confidence.

May the words of the great surgeon Nussbaum which he addresses to the naturalists gathering at Munich be fulfilled:

"Let it be the aim of the physician to win back to medical science those glittering triumphs that in many cases have been left to add lustre to the quack and the rubbing-women."

CAUSES OF TRANSITORY ALBUMINURIA. — Fischl.—It is a well known fact from the publications of Ultzmann, Edlefsen, Furbringer and others, that a temporary albuminuria has been observed in perfectly healthy individuals. In these cases it was possible to trace the cause to anemia, great muscular exertion, depressing mental emotions, etc. Fischl adds another variety of cases, in which, likewise, no organic lesion of the kidneys exist. He relates the clinical history of ten cases treated for the following disorders: cardialgia, gastralgia (due in one case to ulcer, in another to carcinoma of the stomach), colic, enteralgia, hepatic colic—in short, abruptly developed, painful affections of the abdominal organs, which are accompanied by manifestations of shock of more or less severity, (pallor, muscular weakness, threadlike pulse, etc.). During the period of the attack the quantity of urine secreted was considerably diminished, the specific gravity high and albumen present in quantity. The albumen gradually disappears after the abatement of the attack and its threatening symptoms, to return, however, upon the reappearance of the paroxysms. The cause of this transitory albuminuria F. refers to the shock, which is common to all these various attacks. In consequence thereof the blood-pressure becomes lowered, the arteries contract and stagnation of blood occurs by preference in the large veins of the abdominal organs. Hence, there takes place in the kidneys a venous stasis accompanied by arterial anæmia, and very low blood pressure. This is the very condition, which, according to the theory of Runeberg, is requisite to affect a transudation of albumen from the malpighian glomeruli. With the recovery from shock and re-establishment of the renal circulation, the transudation of albumen ceases. Fischl, therefore, regards albumen in these cases as a symptom of shock, which view is substantiated by the fact that in cases in which the collapse is not called forth by painful paroxysms, albumen may also be detected in the urine. Thus F. relates cases in which after great loss of blood (metrorrhagia and hæmateuresis) and severe diarrhœa albuminuria was a manifest symptom.—*St. Petersburger Med. Woch.* G.A.F.

SURGERY.

Transfusion of Blood.—Dr. Roussel, of Geneva, has published two new cases of transfusion of blood that are well worth a perusal. The first was that of a young man who was employed in an abbatoir in the neighborhood of Paris who wounded himself in the thigh, severing the saphena vein and nipping the femoral artery. The hemorrhage was frightful, and when a doctor was sent for he had lost five or six pints. The doctor on his arrival arrested the hemorrhage and injected ether subcutaneously. The patient was in a profound syncope, with now and then great convulsive movements. As a last resource transfusion was proposed, and a telegram was sent to Dr. Roussel, who was stopping at Paris. On his arrival the state of the wounded man was very grave, thready intermittent pulse (180 to 190), with an earthy cadaveric face. Immediately six ounces of blood, taken from a relative of the patient were injected. Immediately the man rallied and stated that he felt a great heat going up his arm and filling his chest. The pulse fell to 120. The rigor lasted about a quarter of an hour, and was succeeded by a reaction which brought the pulse up to 130. Five hours after the operation the pulse was at 96, and the patient expressed himself as much stronger, and partook freely of beef-tea. From that day to the 2d of July, that is to say, the eighteenth day after the operation, when the patient was able to go about as usual, convalescence was not once interrupted.

The second case was more remarkable. A young lady, daughter of an English medical man, was brought in a dying condition from London to Geneva by her father, suffering from a very accentuated form of chlorosis. The father had tried every possible means, but all proved useless, and he decided on consulting Dr. Roussel with a view of having transfusion performed as a last resource. The patient was of a waxy paleness, the face was puffy, and there was general œdema. She could not be lifted up without fainting. The stomach bore no nourishment, save alcoholized milk. The respiration was superficial and insufficient; the *bruit de souffle* of anæmia could be clearly heard in the heart and carotids. Menstruation, which hitherto was very abundant, was now replaced by leucorrhœa. The patient was in a sort of stupor. On the 20th July five ounces of blood, taken from a robust peasant woman, were injected gently, which caused momentary dyspnœa and a slight cyanosis. The rigor was rather violent and followed by a reaction, which, however, was very slow in establishing itself. In spite of a little agitation the patient passed a good night, and in the morning the pulse—which had been previous to the operation very quick and steady—stood at 100. The appetite was almost voracious—she eats several times in the day; and during the whole succeeding week the improvement continued, and on August 10th the recovery was complete. This young lady, since her return to England, has got married and enjoys perfect health. Dr. Roussel cites another case in which he transfused seven ounces of blood into a woman suffering from severe menorrhagia. The result was as brilliant as in the other cases.—*Medical Press and Circular.*

The Treatment of Club-foot in Children. M. Jules Guérin, who, in spite of his great age (84), has lost none of the ardor and eloquence that has characterized his long professional career, entertained his colleagues at the Academie de Médécine with a lengthy discussion on the treatment of club-foot in children. He criticised the methods employed by surgeons in different countries, who seemed to forget that club-foot is due to the retraction of certain muscles and tendons. Every kind of club-foot can be treated by the three following methods: tenotomy, manipulation and apparatuses. According to the venerable professor there was no degree of club-foot in which osteotomy and tarsotomy could not be avoided. There could be no mistake in the fact that the total or partial excision of one or several bones of the tarsus puts the patient in a position far worse than the most pronounced deformity of the foot. Tarsotomy might, however, be practiced in those deformities of the foot produced by articular or osseous affections, but not in the true club foot. In concluding, M. Guérin insisted on repeating that tarsotomy for the treatment of congenital club-foot was an operation that should be expunged from French surgery, in that it can be prevented and replaced by the means already mentioned—tenotomy, syndermotomy, manipulations, and orthopædic apparatuses. M. Gosselin replying, considered that the criticisms of M. Guérin were fully justified, but he could accept them as applied to French surgeons, as he did not believe that such an operation was ever practiced in France for such cases. M. Tillaux, quite in agreement with his colleagues, believed, nevertheless, that there should not be a wholesale attack made on the operation in question, as there were two cases very different, and should not be confounded—congenital club-foot and adult club-foot. In the first the means that M. Guérin proposed were amply sufficient as every surgeon has proved, and no recourse was had to osteotomy. But in the case of adult deformity such means had no control over the affection, and tarsotomy, which he considered an inoffensive and simple operation, might be practiced with very good results.—*Med. Press and Circular.*

TUMORS OF THE UMBILICUS.—M. Nicaise read before the French Association for the Advancement of Science at a recent meeting at Rochelle some interesting observations on tumors of the umbilicus. The first case that of a woman who died of uterine cancer, and suffered for some time from irreducible umbilical epiploic hernia. During the autopsy the surgeons were astonished to find that the hernia had become cancerous while the rest of the epiploon was quite healthy. This is an interesting example of *locus minoris resistentiæ*. The cancer localised itself on a point at which the anatomical structure was modified by the compression continually brought to bear upon it. The second case was that of a papillary tumor, which was also epithelial, and seemed to be superficial, but when they tried to raise it, it was found necessary to extend the dissection to the peritoneum, and even to divide the umbilical ring. The reunion was made by the aid of deep sutures comprehending the peritoneum, the aponeurosis, and the skin; these were made before drawing out the thread. M. Nicaise made the epiploon adhere to the posterior portion of the wound, and then applied the antiseptic method. Thus he obtained a very solid linear cicatrix.—*Med. Press and Circular.*

Miscellany.

THE PRACTICE OF MEDICINE IN CHINA. — By Wm. Young, C.M., M.D., late of Hong Kong, China.

The practice of medicine is more or less empirical, that is, founded upon experience. We might, therefore, reasonably expect many substantial additions to our means of combating disease from the accumulated experiences of ages, recorded in Chinese books. To say that any one coming to China with such expectations would be disappointed, is putting the case very mildly; we would rather say, he will turn from the study with pity or contempt, if not with loathing and disgust.

Did we not know it to be true, it would surpass belief, that the physicians of a nation so old, so distinguished for her literary men, and so practical in some departments, should receive with unquestioning submission the falsehoods of their predecessors, and that so many ages, have rolled away without the most distant approach to truth in the systems taught concerning the structure and functions of the human body. In any of the book stores in China, a diagram issued by the authority of the Imperial College of Pekin can be bought, which gives an outline of what is known and taught in China regarding the anatomy of the human body. In this diagram the œsophagus is rightly made to enter the stomach. The trachea goes through the lungs into the heart, and three tubes passing posteriorly from the heart, connect it with the spleen, the liver, and kidneys. The kidneys are shown to be connected with the spinal column, and from them originates a subtle influence, which passes upward into the brain, and downward to the spermatic cords. The kidneys have thus a first place in the animal economy, as the Chinese locate between them the Ming Mün or gate of life. These notions be it remembered are not the aberrations of irresponsible pretenders, but the undisputed teachings of the Imperial College, handed down without questioning through many generations, carrying with them the authority of deified sages, and having all the sanctity which religion and sanctity can give. In successfully dealing with a machine, the mechanic must be familiar with the structure of its parts, and the action of the whole when put together. But in China we have the human body, the most wonderful and complicated machine in existence, treated by ignorant quacks, who, taking advantage of the self-renovating powers of the human body, assume to heal its maladies, correct its irregularities, and make it work harmoniously. It is quite unnecessary to add that surgery as an art has no existence among the Chinese. Nature must effect her cures unaided by science, and her efforts in this direction are often thwarted, or totally obstructed, by the most ignorant and unwarrantable interference with her functions, the simplest appliance in the department of surgery being quite unknown. The Chinese, however, are beginning to appreciate the skill of Western surgeons, as they come from all parts of the country to the many hospitals which have been established by missionaries and by the enterprise of the physicians attached to the European department of the Chinese Customs service. It is one of the hopeful signs of China to see the readiness with which they consult foreign surgeons, and to note the wonder at the result, and the respect inspired by their skill and attention. No one would ever forget the look of alarm and abject fear with which a Chinaman surveys the approach of a knife to an abscess, and how that look changes into one of unbounded pleasure and implicit trust, as the matter wells out of the opening. These labors are doing much and will yet do more to break down the barriers of prejudice and seclusion which have been reared by centuries.

That surgery was practiced among them at a remote period admits of no manner of doubt, as many allusions are made to the art, in some of their old books, and according to M. Stanislaus Julien it appears as far back as the third century of our era, the Chinese were in possession of an anæsthetic agent, which they employed in the same manner as we use chloroform and ether for producing insensibility during operations. M. Julien discovered a description of this in a work called "Kow-King-i-tong." In a biographical notice of Hoa-tho, who flourished under the dynasty of Wei, between the years 220 and 230 of our era. It is stated that he gave the sick a preparation of Ma-yo, who in a few minutes became as insensible as one plunged in drunkenness or deprived of life. He then made incisions, etc. After a number of days the patient found himself restored, without having experienced during the operation the slightest pain. It appears from the biography of Hoa that this Ma-yo was prepared by boiling and distillation. This, like the art of which it was the handmaid, is entirely lost, and Chinamen wondered as much as foreigners to find that in the forgotten past they possessed what is now prized by surgeons as the greatest triumphs of chemical skill, and by many a suffering patient as the greatest blessing of the healing art. At the corners of the streets in any Chinese city may be witnessed the native dentist extracting teeth by what is said to be a painless method. The patient is made to sit down, a white powder ($Hg\ Cl^2$) is rubbed on the gum, the patient is then directed to wait a little; after a few minutes the process is repeated, and the dentist then introducing his thumb and forefinger, with apparently very little violence the tooth is pulled out. I have never been able to trace whether any deleterious effects were produced by the action of the mercury on the jaw, or to learn what was its specific action on the gum, further than to notice that after the first rubbing it assumed a blanched appearance. The patients all winced under the operation, but it seemed harmless compared with the anguish-inflicting forceps or key.

The Chinese physician largely practices counter-irritation. A favorite method which is commonly adopted in rheumatism and inflammatory pains is for the doctor to close his fist firmly, and using the index and middle fingers as forceps, to seize the skin over the part, draw it forcibly outwards, letting it free with a snap into its place. It is quite common to see coolies, that is the working classes (whose bodies are usually uncovered), with long, dark, lines on their persons caused by this barbarous system of torture. A more painful though not so common method is the application of moxa, often causing large and gangrenous wounds by the application of fire near important and sensitive organs. But the favorite application to all parts is an adhesive plaster. It is a matter of sublime indifference to a Chinese practitioner whether the patient is suffering from an abscess or a wound, an abrasion, or merely a numbness from cold, the same plaster is applied. It matters not whether the wound be recent or of long standing, or whether it be clean or foul with corruption, the same disgusting materials are applied. If in spite of such treatment a cure is affected the praise of the remedy is vaunted abroad, but if, and what is usually the case, bad becomes worse, they assume that some evil influence has been at work to counteract the efficacy of the drug.

The fact that the blood circulated through the body seems to have been known to the Chinese in ancient times. But no true notion of arteries and veins as distributing and returning the blood has ever been developed. They supposed that both air and blood permeated the body in tubes, which have only an imaginary existence.

The study of the pulse has been a favorite for the Chinese physican in all ages. It is marvelous with what eyes a Chinese doctor can look into his patient through the pulse; he can not only tell the disease, the exact seat, but even decide the age and sex of the undeveloped fetus. Western physicians are often placed at a discount among the Chinese on account of their supposed ignorance in not being able to diagnose a case from merely feeling the pulse of a patient, sometimes they are not even allowed to see the sufferer, a hand merely being thrust out between curtains, and often the most misleading answers are given to questions, the more certain to test the skill or puzzle the ingenuity of the doctor. The Chinese physican sublimely soars above all such difficulties, and finds in the realms of imagination easy solutions, which, if they do not lead him to cure the patient, shamefully imposes on the innocent and unsuspecting. The Chinese have accomplished this blissful and wonderful state by the invention of the theory of the Yin and Yang, which in their speculations are two principles or powers in nature, the male and female, ever active in producing the physical, chemical and vital phenomena of organic change accounted for by the action and reaction of those powers, but the occult powers of living bodies in all the complicated action of their organs in health and disease are explained by calling in the aid of these imaginary principles. When these are equalized there is health; when the male principle predominates the disease is of a low or typhoid character. The reaction of these principles make up an amount of absurdity truly wonderful, but venerable for its antiquity. Most of the medicines in use among the Chinese are absolutely inert, and to some of which such virtues are attached to be sold for many times their weight in silver. The native ginseng, though entirely rejected in western medicine, is very highly prized amongst the Chinese, so much so that it enters as an essential ingredient into numerous native preparations. The high value attached to it, is because its roots bear a real or fanciful resemblance to the form of the human body. The same fanciful relations guide them in the application of all medicines to the cure of diseases for medicines are never applied by them according to their known therapeutical properties, but according to some supposed relationship between the organs of the body on the one hand, and the elements, earth, wood, metal, water and fire, on the other. Thus they fancy that the liver is related to the element wood, and as metal has control over wood, medicines related to the element metal are those which for this reason are applicable to the diseases of the liver; so with regard to all their medicines and all the organs of the body. A round of imaginary relationship is established, the actual virtues of the medicines are overlooked, active and inert substances are employed with the same confidence, thus exhibiting an amount of ignorance and absurdity in dealing with the lives and health of men which is absolutely inconceivable.

But one of the most melancholy chapters of Chinese medicine is the superstitious and idolatrous practices connected with guarding the sick from the destructive spirit of disease. This is accomplished by various incantations, and by the exhibition on the bed and walls of the room, of hideous pictures to frighten away the genii of evil. Sometimes the patient's face is painted in the most grotesque manner, in fantastic shapes and colors, giving the whole scene, were not the life or health of the patient at stake, a most ludicrous aspect.

The choice of a physican is also decided by lot and not from any well-known skill or ability of the doctor, or if the patient or friends decided upon a certain practitioner, they endeavor to find evidence that their selection has been fortunate. The Chinese are, however, in all these matters thoroughly practical. The physican undertakes to cure for so much and within a certain time, and should the first dose of the medicine not produce the desired effect, the oracle is again consulted and another physican is again called in. The moment, however, a Chinese doctor perceives that the patient is sinking he at once abandons the case, leaving the poor sufferer to linger without aid, or do anything to smooth the way of the last and closing scene. This moment is the opportunity of western physicians, often however, too late to be of any use to the sufferer. The Chinese have a thorough contempt for their doctors unless they are certain he is doing them good, or he succeeds in gaining their implicit confidence by bold and reckless assertion. His nostrums are invariably looked upon with suspicion, for even in the much vaunted Tung Wah Hospital of Hong Kong which is under the management of native doctors, on a settle behind the building may be seen ranged, under the name of the patient, or number of his bed, duplicates of the medicine given, or the exhausted matrix of decoctions, so that, should the patient die with symptoms not understood, the medicine or detritus may be examined, to see that it contained no deleterous or poisonous ingredients.

Happily for the Chinese nearly all their medicines are inert—as pearls, tiger's bones, rhinoceros horns, fossil bones and numerous other articles as inert are used, which are absolutely without any medicinal virtue. Were it otherwise it would require no gift of prophecy to predict that the whole land would soon be turned into desolation.

Of obstetrics as a science they are entirely ignorant, wearying and exhausting the patient by absurd and ridiculous positions, often risking the mother's life by giving her disgusting draughts, and at last abandoning the case, rendering many a home desolate, or marring the maternal prospects, when the most elementary knowledge of the subject would have overcome all difficulties and saved the life of one or both. In this department also prejudice is fast breaking down, and in cases of difficulty a European surgeon will be sent for. It is then, when they see how simply, and without exposure, the case is dealt with that their admiration for the foreign doctor is shown, and they make no scruple to speak of their own in terms far from complimentary.

Incredible as it may seem, this state of matters has existed for ages, and considering the state of personal filth and the unhygienic conditions in which they live, so far as can be gathered from their own authorities or from personal observation the rates of mortality in China will bear favorable comparison with western nations.

This, in a great measure, is to be accounted for by the simple manner in which they live, their diet being chiefly vegetables combined with fats, the absence of spirituous liquors, and their places of business having only three walls, the fourth side being only a temporary structure, which can be taken away or replaced at pleasure.

The absence of acute inflammatory diseases amongst the Chinese has often been remarked by European practitioners, and many profound speculations have been offered to account for this fact, many attributing it to their mode of living, their abstemious habits, their vegetable diet carefully prepared, and to their never drinking cold liquids, all their drink being tea, the national beverage, freshly made and carefully decanted. Perhaps the whole of these, added to their sanguine temperament, renders them almost free from those acute inflammatory disorders which swell the mortality in Western cities.

The principal diseases from which they suffer are intermittent and remittent fevers, congestions of liver and spleen, chronic rheumatism—their cities are never entirely free from small-pox. Skin diseases may be studied at the corner of every street, and few homes are without the necessity of employing an oculist. Vesical calculi are very common. Elephantiasis Arabum is found in some districts, and leprosy is sometimes met with. That the minds of men whose calling is to relieve sufferings so great and diseases so formidable should have been satisfied to grope so long in darkness is indeed wonderful. Age after age the process of the deception has gone on, one generation after another has followed in the abyss of mental delusion, and never yet has there been found a mind among all the myriads of physicians which could break through the trammmels of venerable ignorance, in order to strike out a new path towards scientific and rational medicine as it has been developed by the labors of physicians in the west. Why is this? The answer is to be found in the teaching of their religion, and in the prejudices of the literati or governing classes against the innovations of foreigners. Their religion may be briefly defined as ancestral worship. A Chinaman can never be wiser or better than his forefathers, and it is wickedness and presumption for him to improve on their methods or alter their decisions; and when he is asked why he does such a thing, or does it in such a way, he will not show that it is the best way the thing could be done, but will at once find refuge in their oft-repeated phrase "old custom." To introduce new ways would be for him irreverence, and new modes of thought high treason to the dead. The teachings of the literati have also engendered amongst the Chinese an intense horror of touching a corpse and a great reverence for the person of the dead. He believes as he is buried so he exists in the spirit world, and to mutilate the body, or even desecrate the grave, is to disturb all the sacred relationship that exist between the world of spirits and this mundane sphere. The body if defaced, the spirit knows no rest. This doctrine has a firm hold on the minds of the people, and by it the literati maintain a cruel tyranny over the minds of their degraded fellow countrymen. It has also been the means of excluding from the country, railways and telegraphs, as the noise of the one and the wires of the other would disturb the fung shuey or repose of the dead. Two years ago, at the provincial examination held in Canton, most of the candidates from a certain district of the city failed to pass; the failure was attributed to the presence of the spires of the

Roman Catholic Cathedral, which disturbed the fung shuey. This was the cause of a serious riot, the presence of an imposing military force being nececessary to save the building from destruction. Need it be wondered, then, that the study of anatomy, which is the basis of any rational system of medicine, is altogether unknown, and the poor Chinamen continues to have his ailments treated by ignorant pretenders, who, shielding themselves behind superstitious and idolatrous customs, attribute their failures to the preponderating principle of evil. But however dark this picture may seem, rifts in the gloom are constantly appearing, clearly showing that the Chinese are beginning to appreciate and realize the fact that a better system of medicine than their own is understood and practiced by the hated barbarians, and many tempted by avarice and the national love of learning are travelling to other lands, attending foreign universities, even obtaining degrees, who, when returning to their native land will sow precious seeds of thought, which falling into verdant soil, will yet germinate in improved modes of teaching, and a more just, because a more correct, system of medicine, founded upon research and patient investigation, instead of the vagaries of diseased imagination, thus bringing untold blessings to that benighted and downtrodden people. —*Canada Medical Record.*

THE ACTION OF HELENINE ON THE BACILLUS OF TUBERCULOSIS.—Still another item has been added to our long list of scientific debts to our trans-Atlantic *confreres*. While yet laden with our burden of gratitude to Koch for his alleged discovery, we learn that we are not less indebted to France. Germany, we are told, has discovered the nature of tuberculosis; France must discover its antidote. M. de Korab has saved the credit of France in this scientific rivalry.

At a recent meeting of the Académie des Sciences, M. Bouley read a note by M. de Korab, in which he detailed the results of some experiments made with helenine as an antidote to the effects of the bacillus tuberculosis. He was led to undertake this study from the good results observed in cases of diseases of the respiratory apparatus in which helenine had been administered.

In the first place he found that this drug hindered the development of the baccilli in culture fluids, and he also claims that the administration of helenine will prevent the symptoms of tuberculosis in animals inoculated with the bacillus. Thus he reports four series of experiments; in the first series he inoculated seven guinea-pigs with the bacillus obtained from serous culture-fluid to which helenine had been added; no tubercular lesions appeared.

In his second series, tubercular sputa treated in the same way were substituted for the cultivated bacilli, and the same result was produced; the sputum treated with helenine was innocuous.

His third series of experiments was made on ten rabbits, into whose peritoneal cavity serum containing bacilli was injected; five of these animals received three centigrammes regularly of helenine, and showed no evidence of tuberculosis, while the five others died on the eighth to tenth day.

In this fourth series the bacilli were injected into the anterior chamber of the eye in four rabbits, and the characteristic results appeared on the tenth day; two of the rabbits received regularly two centigrammes of helenine every day; they recovered, while the two other rabbits died.

We fear that the desire to sustain the national reputation for scientific research has led M. de Korab to take a rather too enthusiastic view of the specific properties of helenine; his results are wonderfully successful, but to carry conviction as to their reliability they require the confirmatory observations of other investigators.—*Med. News.*

THE NATURE OF RIGOR MORTIS.—The question of the cause of the different kinds of rigor in the muscle has been discussed anew, this time by Miss Schipiloff (*Centr. f. d. med. Wiss.*, 1882, p. 291). She sought an analogy between the changes of myosin in salt solutions and those of the myosin in the muscle. Particularly interesting are the comparisons between the *rigor mortis* and *rigor caloris*. Myosin which is precipitated from its solutions by acids and by a small quantity of distilled water, retains its chemical character, and does not change into syntonin nor into the insoluble modification; hence, fresh muscles and those which have become spontaneously rigid must contain the same amount of myosin (if its changes causes rigor), which is found by experiment to be true. Again, myosin is precipitated from its solutions by heat, but the body thus obtained is no longer myosin, and is completely insoluble in NH^{4}Cl, hence the *rigor caloris* must be totally different from the normal spontaneous *rigor mortis*. The *rigor mortis* depends upon a temporary precipitation of chemically unaltered myosin from its semi-liquid condition in the muscle plasma; this precipitation is caused by the post mortal development of acidity, whose further increase brings about a resolution of rigor in muscular tissues which have not yet become putrefied."—*Boston Medical and Surgical Journal.*

TRICUSPID INSUFFICIENCY.—The experimental study of tricuspid insufficiency was the subject of a brilliant communication by M. Francois Franck, who devoted himself to the demonstration of the influence introduced into the circulation by dilation of the heart and the valvular insufficiency which resulted. M. Franck also showed that the modification of function observed in many clinical cases could be reproduced by experimentation. Even the asystole can be overcome by producing at the beginning the pure tricuspid insufficiency in animals. This he determined by the aid of special valvulotomes. He also showed divers morbid phenomena in the veins of the heart and in respiration.—*Medical Press.*

FUNCTIONS OF THE PHRENIC NERVE.—The first paper read before the French Association for the Advancement of Science was, by MM. Hénocque and Eloy, and was devoted to the consideration of the functions of the phrenic nerve and to contractions of the diaphragm. Experiments tried on animals showed that after having removed the roots of the phrenic nerve the immediate consequences were—1st. Extensive contraction for some moments of the inspiratory muscles; 2d. The cessation of diaphragmatic contractions on the side operated upon; and 3d. A very feeble respiratory movement of the thoracic wall on the same side, caused by the action of the inferior intercostal and the accessory elevators. Nervous regeneration has been observed in some cases at the end of a fortnight or more; respiration of the side operated upon recommenced afterwards, but was feeble in comparison with the healthy side; in some cases there resulted difficulty in phonation.—*Medical Press.*

WHERE ARE THE EXAMINING BOARDS.—There is a man, a very small creature, a regular Russian ripsnorting Barker, flooding the mails of Kentucky with illustrated circulars setting forth his great powers as a peddler of spectacles. He radiates from Fourth and Broadway in Cincinnati and claims to be a graduate of a school which never existed in London. He announces he has attended the clinics of men who never held a clinic, and of others whom he locates in countries foreign to their homes.

He discourses elaborately of refraction, and says the separation of the rays of light by a prism "is the spectrum of analysis." He has copied a very poor statement of the ingredients of commercial glass, adulterating substances and all, and boastingly proclaims that his spectacles are made of such glass. The world is full of humbugs and scoundrels, and it ought to be easy to stop the career of such as are given to tampering with the health of the people.

Deficiency in the statutory prohibition of quackery in the medical profession of Kentucky leaves the credulous public to the merciless impositions of traveling mountebanks. We have personal knowledge of many falsehoods contained in Barker's circulars, and feel it our duty to warn the profession and the public that he is not a graduate of any recognized, lawfully-constituted school of medicine, and has not reached the dignity of even a pathy. If one of the examining boards should summon him to appear and exhibit his diploma or his qualification to practice medicine he would speedily fly the State. — *The Medical Herald.*

DENTAL CHANGES IN LOCOMOTOR ATAXY. — Dr. Th. David has observed in locomotor ataxy dental changes which he thought was analogous to those of the hair and nails already mentioned in the description of this disease. In the case described by M. David these alterations consisted of a rapid mortification of the anterior wall of the crowns of nearly all the teeth. The altered substance became of the consistency of soft wood, and of a reddish color. The enamel preserved its polish, but not its power of duration. Under these portions the pulp formed a fresh bed of secondary dentine, the bulbous cavity in most of the back teeth was filled, and, therefore, the atrophy bulb also. This fact and the considerations which arise from it, tend to attribute once more the signification of a sensorial organ to the dental pulp; they establish also pathological relationship of the organs already united by one common epithelial origin.—*Medical Press.*

DOUBLE CONSCIENCE. — M. Ayam, who each year communicated to the medical world the actual condition of a patient, who has the remarkable phenomenon of a double conscience, then informed the meeting of the progress of the malady in Felida X———. This woman, aged thirty-seven years, who has been ill for twenty-three years, has still, as before, two mental conditions, which M. Ayam calls the first and second states, the one normal the other abnormal; in one state she has no recollection of what passes while she is in the other. Originally the second condition was exceptional and rare; now it lasts from twenty to twenty-five days in each month; formerly she was very bright and gay when in the second condition; now she is very sad.—*Medical Press.*

SOLUBLE AND INSOLUBLE MODIFICATIONS OF THE GASTRIC FERMENT.—Solution of pepsin from the sheep, filtered twice through paper, and then through biscuit porcelain, still retains the property of rapidly dissolving fibrin, and converting it completely into peptone. It has, however, only about half the digestive power of the unfiltered liquid. This soluble pepsin has also the property of fixing itself on fibrin in an insoluble form, as recently observed by Wurts. The portion left on the filter, after prolonged washing, consists mainly of rounded or ovoid refractive corpuscles, about one-tenth or one-twelfth the diameter of the globules of beer yeast. They have a somewhat slow, non-brownian motion, and are frequently associated in pairs, in which condition they appear to be more mobile. They are accompanied by numerous agglomerations of brilliant immobile corpuscles, together with crystals of ammonium magnesium phosphate, fatty globules, and here and there very small bacteria: 0.086 gram of the dry insoluble matter was obtained from four grams of pepsin. This insoluble portion, in presence of dilute hydrochloric acid, has a power of dissolving fibrin six times greater than that of the unfiltered pepsin, but the process of digestion is not complete, even after a long time, the fibrin being converted into intermediate products, which are precipitated by nitric acid. The insoluble particles are probably protoplasmic granules from the peptogenic cells. The insoluble granules obtained from pepsin are gradually but slowly converted into the soluble modification in presence of pure water. This affords proof of Béchamp's supposition ("Compt. rend." 94, p. 582), that pepsin is a product of these gastric microzymas, as he terms the insoluble granules. The author is, however, unable to agree with Béchamp that these granules are living organisms which have the power of secreting pepsin. He regards them as a purely chemical ferment, without organization and without life, and bases this conclusion on the following facts. The granules show no signs of organized structure under the highest magnifying power; they do not propagate even under most favorable conditions; they digest albuminoids in presence of poisons which completely check the activity of organized ferments, especially such as are of the nature of vibrioles, and they act only in presence of free acids, whereas bacteria and their germs require a neutral or alkaline medium.

The insoluble granules can be easily obtained from the mucous membrane of a pig's stomach from which all mucus has been removed. Thus obtained their properties agree with those of the *gastric mycrozymas* of Béchamp.—A Gautier, *Jour. Chemical Society*.

DANGERS FROM THE USE OF THE SEWING MACHINE.—Sewing machines having come into such general use that one is to be found in almost every household, it becomes necessary to acquaint the families using them of the dangers to which the girls running them are exposed.

M. Guibotti recognized that the movement of the feet aroused a kind of sexual excitement; and Dow observed cases of sexual irritation resulting from working the sewing machine, so that the girls were obliged to leave their work and use cool water in order to subdue it.

Now, two cases are published of locomotor ataxy caused by the movement of the lower limbs and by the trepidation resulting from the rattling of the machine. It is, therefore, necessary that nervous women should avoid this kind of work.—*Revista de Medicina*. A. R.

M. PASTEUR demonstrated, two years since, that fowls contracted charbon only when their temperature was lowered, their normal temperature being 111° Fahr. M. Paul Gibier has recently determined that frog's contracted charbon when under the influence of relatively high temperature. He placed twenty frogs in tepid water, and inoculated them with charbon virus; five of them contracted the malady. Their blood indicated the presence of bacteria. These elements were larger than those observed in the bovine and ovine species. Guinea-pigs and rabbits were inoculated with the blood of the frogs, and contracted charbon.—*Brit. Med. Jour.*

MEDICAL EDUCATION IN THE UNITED STATES. The Annual Report of the Commissioner of Education for the year 1880, has just been issued by the Government, and from it we learn that during the last decade the number of medical institutions, and of medical students in the United States has about doubled, and that the number of instructors has nearly trebled.

The number of "regular" schools is put down at 72, with 1,131 instructors, and 9 976 students. The "Eclectic" schools number 6, with 65 instructors, 833 students. The "Homœopathic" schools number 12, with 188 instructors, and 1,220 students.—*Medical News*.

RESIGNATION OF DR. OLIVER WENDELL HOLMES. It is rumored that Dr. Oliver Wendell Holmes is about to resign his Professorship of Anatomy in the Harvard Medical School.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, October 28th, 1882.

The Week.

SMALL-POX IN CINCINNATI.—The cold season is approaching and sickness is on the increase. Doors and windows are carfully closed to keep out negative cold and to keep in the positive germ of disease. Small-pox is again on the increase. A solution of carbolic acid is freely sprinkled about every house in which there is a case, then the wiseacres of the Board of Health think they have done their duty toward destroying the germ of the pestilence. In some cases in Cincinnati the officer who sprinkled the saving mixture throughout the infected room closed all the doors and windows—possibly to allow the air to become saturated with the fumes of the acid and of the small-pox virus. Any one with a modicum of knowledge on this subject knows that the vile smelling mixtures, as used by our sanitary officers, have little, if any, destructive influence on the small-pox germ. Fresh air, which is Nature's disinfectant, seems to be not thought of as a sanitary agent.

Of far greater utility than carbolic acid as a disinfectant in a small-pox room is fresh air. But this is much too common for our dignified Board, and besides it does not smell so bad, nor cost so much money as the mixture ordered.

Every one knows that it is not by such means as disinfectants, or ventilation, or isolation of the sick, or yellow placards that small-pox has been controlled.

These things have all been tried and have absolutely failed to check the ravages of this disease. There is one way, and as far as we yet know but one way, of preventing the small-pox. That way is vaccination.

In times when ignorance and superstition prevailed it was well enough to have a pest-house, far removed from other human habitations, and to here isolate all the unfortunates attacked by the disease. Then, too, might yellow placards, or red flags, be used to frighten the people from the presence of the pestilence. With our present knowledge of the protection afforded by vaccination these things are unnecessary. Unless, indeed, we regard it as criminal to have the small-pox, and send those so affected to a pest-house as we send other criminals to jail. The people should be taught that it is their own fault if they have this loathsome disease and then the panical fear of an epidemic will vanish.

Of course it should also be known that vaccinia is a typical disease, and that not every ignorant barber is capable of deciding whether a specified vaccination is sufficient to afford immunity from small-pox. The vaccination must be properly performed, with good virus; it must result in a typical local sore, which is accompanied by certain constitutional symptoms; then, and then only, may a person consider himself absolutely free from danger of small-pox contagion. A person so vaccinated may enter the small-pox chamber with as little liability of contracting the disease as if he had already had the small-pox; or, as if the case were pneumonia, or phthisis, or rheumatism.

Our business men complain of the effect of the epidemic on their trade, yet they will not bring force enough on our legislature to compel them to pass a compulsory vaccination law. They prefer to cry out to the Health Officers to "Stamp out" (whatever that may mean) "the epidemic;" while they withhold from them the power of so doing.

COLUMBUS MEDICAL COLLEGE.

Editors Lancet and Clinic:

Equality, or something like it, in meeds of praise or blame require a protest to your notice of Columbus Medical College in your last week's issue. And first, allow me to say, that the public judgment of the matter has been somewhat led astray.

As the specific charges against the College have been refuted by Dr. Hamilton, one might be at a loss to account for hostility to the College. No, not at a loss either, as rival jealousies will do it; the ever present tendency of a metropolis to belittle aspiring cities in its environs.

It may be at once admitted that in this free country medical colleges are not once in a hundred times organized as a real need, but as a means of advertising the men who comprise its faculty. All who can read beneath a very flimsy disguise know this is true. Well, the evil will have to go on, until like a huge disease it becomes unendurable; in no other way will the people be made to see the evil, and be willing at last to apply the remedy. Let then college multiplication go on rapidly, let the fungus grow, and the knife at last will be used to root out the evil—in the way of a rigid law that will effect a thorough reformation.

But where so many glass houses abound stones should be thrown by the occupants with care. The talk of a high standard of medical education by every college is all bosh; you have only to take out your tickets and pay your money and a degree is assured to any and every one beyond the grade of idiots. I have yet to know of a single student, who, on account of innate stupidity or incompetency, failed in getting a degree. He has only to pay his money and take his choice. I call upon your readers to give the number of students that they have known to fail in being dubbed M.D.'s.

Let us have light! AN OUTSIDER.

"AN OUTSIDER" is respectfully informed that Dr. Hamilton has not satisfactorily refuted the charges made against Columbus Medical College. In fact he stated to the writer that no lectures on chemistry are delivered in that institution after the Christmas holidays, that students do come in after that period, and that the commencement is held the last week in February, that one week prior to commencement is taken up with examinations and not teaching, or, plainly speaking, from four to six weeks of a partial course of lectures has been permitted to count as a year's instruction. In these latter days such courses of lectures should be and are regarded as phenomenal. The examinations must of necessity accord with the four to six weeks partial course of instruction, and, as a sequence, diplomas are granted where they should be withheld.

We quite agree with "An Outsider" in his statement that "the talk of a high standard of medical education by every college is all bosh."

The word *every* takes in the Columbus and other colleges of that ilk, and is followed by the humiliating confession that "you have only to take out your tickets and pay your money and a degree is assured to any and every one beyond the grade of idiot. I have yet to know of a single student who, on account of innate stupidity or incompetency, failed in getting his degree." Our correspondent, writing under the shadow of the Columbus College, depicts a condition of affairs that call for such a refutation as Dr. Hamilton has not seen fit to give.

The remedy proposed for the fungous growth of medical colleges organized as a means of advertising the men who compose their faculties is not worthy of our learned correspondent. An epidemic of cholera, small-pox or yellow fever threatens a city, should we wait until the population is decimated and the people crying for relief from the plague before we use prophylactic remedies? Yet that is the plan proposed. Rather would we call aloud and in no uncertain tones proclaim the need of reform and a strict censorship over the examinations and granting of degrees by medical colleges.

If there are so many glass houses, as intimated by our correspondent, there is all the more necessity for a thorough ventilation, even at the expense of some pains. And then some kinds of glass will scarcely permit the rays of light to pass through them and are really obstructors and in the way of progress. These dark glass houses should be demolished and give place to structures erected by master builders, the material of which shall be of the most highly polished and brilliant glass, admitting and transmitting light on all sides, illuminating the way for all who come within their precincts.

Bibliography.

HYPODERMATIC MEDICATION.[1]

The fourth edition of this work following so soon after the third is the highest evidence of the esteem in which this book is held by the profession. The following extract from the author's preface gives some idea of the increased value which the revision has given to the volume:

> "I have rewritten much of the work, and have added new matter to the extent of one hundred and fourteen pages of text. As heretofore, I have incorporated those new contributions to therapeutics which seem so well grounded as to be permanent additions to knowledge."

The term *hypodermatic* is substituted for *hypodermic* which the author endeavors to justify by referring to the Greek derivatives.

We are decidedly of the opinion that the profession in general will not see the necessity of substituting for the familiar *hypodermic*, whose long use has given it a firm position in medical nomenclature, the longer and more awkward *hypodermatic*, even though it be more in accord with correct etymology. The tendency of the times is decidedly to shorten, rather than lengthen our form of expression; and we think that the advantage claimed would not compensate for the lengthened word that would cumber our medical literature.

The book is, as a whole, of remarkable excellence, and no modern practitioner can afford to be without the information which it contains. T.

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[1] By Roberts Bartholow, M.A., M.D., LL.D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia; Fellow of the College of Physicians of Philadelphia; Member of the American Philosophical Society; Honorary Member of the Medical and Chirurgical Faculty of Maryland, of the New York and Ohio State Medical Societies; Cartwright Lecturer for the year 1880, etc., etc. Fourth edition, revised and enlarged. Philadelphia: J. B. Lippincott & Co. Cincinnati: Robert Clarke & Co. Price, $2 00.

THE SPINAL NERVES.[1]

In this small work of less than sixty pages, is given a condensed but detailed description of the anatomy of all the spinal nerves. It is accompanied by a diagram of the spinal nerves (36x18 inches) representing every muscular filament and other smaller branches worth remembering. Six anatomographical charts of the spinal nerves also accompany the text. The text treats of the nerves in the order in which they appear upon the charts, so that the latter may serve as an index for the former. The classification is complete, and based upon the most improved nomenclature. The most proximal branches and nerve trunks are printed in the largest and heaviest type, while the reverse is true of those which are most distal. In most instances the names of the nerves in the text are printed in type similar to that on the charts. The object of this work is to facilitate the study and easy remembrance of the spinal nerves. It has been designed for the practitioner as well as of the student, and it is of special advantage to the latter in the dissecting room.

The text is bound in a stiff paper cover. The typography is of the best kind. All the lines are well separated and the type is large. The text is printed on heavy paper. The charts and the diagram are printed on smooth, stiff, heavy paper.

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[1] By A. H. P. Leuf, M.D. Price, text, charts and diagram together, $1 00, net. F. B. O'Connor, Jr., Publisher, 68 and 70 Court street, Brooklyn, N.Y.

DR. P. S. CONNER will be very much obliged if his Erichson's Surgery, Bryant's Surgery, Hamilton on Fractures and Dislocations, and Quain's Anatomy, Vol. I, are returned to him at an early date.

Original Communications.

A CASE OF BIGELOW'S OPERATION FOR STONE IN THE BLADDER, AND A CASE OF OVARIOTOMY.

Reported before the Cincinnati Medical Society,

BY N. P. DANDRIDGE.

H. W———, called at my office to consult me in regard to a calculus from which he had been suffering for six years. He has frequently consulted irregular practitioners and was always told that he was affected with "disease of his kidneys."

Recently his bladder was examined and a stone discovered.

The sound introduced readily detected a stone. The symptoms he described were quite typical of calculus, frequent and painful micturation, the pain occurring at the close of the act, and located in the head of the penis, and sudden stoppage of the stream while passing. The urine has at times been thick and milky, but on only a few occasions has any blood been mixed with it. At a subsequent examination a 29 French steel sound was easily passed without causing any pain, and the presence of the stone again verified. The urine was of a light straw color, free from albumen; acid and 1020 sp. gr. Microscopic examination discovered a few pus corpuscles, but no crystals of any kind could be found although careful search was made for them.

From this examination, which was not followed by any bad symptoms, it was apparent that the urethra was capacious and quite tolerant of the presence of instruments even of large size, and the urine indicated that the stone was composed of uric acid or the urates. The acid reaction excluding the phosphates, and the absence of hemorrhage rendering it improbable that the symptoms were due to a rough mulberry calculus. The size of the stone was estimated at not more than an inch and a half in diameter; this, of course was only an approximate estimate.

October 17, Bigelow's operation was performed, Drs. A. S. Dandridge, Walker, Hart, Allen, and Christopher being present. The lithotrite was at once introduced without any preliminary sounding, and the bladder systematically explored without, however, finding the stone. Flevan's searcher was then introduced and the stone readily struck. Two or three ounces of urine were now drawn off in order to diminish the distension of the bladder, as the man had retained his water for several hours before the operation, and a considerable quantity had accumulated. By thus diminishing the area of the bladder the stone would be more easily found. The lithotrite was again introduced, and the stone readily caught, the separation of the blades being about an inch. The stone was easily crushed, and the crushings repeated several times, the fragments being caught by simply opening and closing the blades of the instrument without changing its position. The evacuating tube was then introduced and Thompson's apparatus used for washing out the bladder. A quantity of debris at once appeared in the glass receiver, after washing out the bladder several times, the lithotrite was again introduced and further fragments crushed. The lithotrite was introduced in all four times, and after each crushing some fragments and debris were evacuated. The bladder was then carefully sounded, and no more fragments detected. As a precautionary measure the evacuating tube was introduced for a final washing, and on being withdrawn a fragment was found lodged in the opening.

The man was under the influence of ether forty minutes, the crushing occupying thirty. He was placed in bed and warm clothes applied to perineum and abdomen. When seen in the evening he was free from pain and very comfortable. He had during the day passed his water twice, while in the recumbent position. In the afternoon there had been some slight abdominal pain which had subsided on the escape of flatus. The next morning when seen he stood up and passed four or five ounces of urine with freedom from pain for the first time, he said, in six years.

He remained in bed during the day—the next morning I found him dancing about the room, and Monday, six days after the operation he went to his work as machinist.

The fragments dried, which I here present weigh eighty-five grains as a portion was lost the stone probably weighed nearly two drachms. That you may estimate its size I will pass around this specimen which is probably of the same composition as the one crushed. It weighs three drachms and measures 1¼ inches in the long and 1⅛ in the short diameter, and is ⅝ inches in thickness.

The case above reported presented all of the conditions for a favorable lithotrity, a capacious and tolerant urethra, a bladder holding readily a fair quantity of water, and a small and soft stone, together with an entire absence of indications pointing to any organic trouble in the urinary organs, and the result certainly demonstrates in a most satisfactory manner, the superiority of crushing over the cutting operation in similar cases, the patient being discharged from treatment the third day, having escaped all of the dangers and discomfort which a lithotomy must have subjected him to.

A CASE OF OVARIOTOMY.

It was not my intention, Mr. President, to have further trespassed upon the time of the society to-night, but if no one else has a case to report I will briefly detail the main facts of an ovariotomy which I made early in the month.

The patient is a widow about fifty years old, she has had seven children and one miscarriage nineteen years ago. Her mother died of dropsy, and her father of asthma, and one sister is now suffering from cancer.

This woman I have known for a number of years. Her general health has been good. About eighteen months ago I was called to see her on account of a small femoral hernia, with symptoms which pointed, though not distinctly, to strangulation. These symptoms persisted for some days, but finally subsided, and since then she has not consulted me about her health. She came into my office complaining of severe pain in the abdomen to the right and above the umbilicus. I was struck by the greatly enlarged condition of the abdomen, much larger than I remembered it formerly to have been, although she was always quite stout. Her face presented a pinched and shrunken appearance. Upon examination in the recumbent position, the shape of the abdomen at once suggested the presence of an ovarian cyst, prominent in front without any bulging on the sides. The enlargement was not symmetrical being more prominent above and to the right. Palpation showed it to be of different consistency in different parts.

To percussion it was dull in front and tympanitic above and to the sides. The uterus to the touch appeared normal. The woman could give no clear account of the development of the enlargement, indeed, she did not seem to appreciate that she was much larger than formerly, although on questioning I found that there had been increasing failure of health with shortness of breath and difficulty in performing her usual avocations. The indications certainly seemed to point to an ovarian cyst, but recalling her former attack, the possibility of chronic obstruction with some peritonitis occurred to me.

Later in the day, assisted by Dr. Mackenzie, I made a more careful examination at her home. A hypodermic introduced on the right brought out a clear fluid, on the left where the mass seemed harder a rather thick viscid one (the fluid subsequently was found to contain the granular corpuscles). The diagnosis of multi-locular cyst with some peritonitis was made. This was confirmed the day following by Drs. A. S. Dandridge, Taylor and Stanton.

The abdomen measured forty-two inches in circumstance. The distance from the umbilicus to the anterior superior spine was 2 inches greater on the left than on the right side. The operation was made Oct. 3, at 10:30, the symptoms of peritonitis indicating the necessity of acting promptly.

The subperitoneal vessels were unusually large and tortuous and the parietal peritoneum was injected and reddened. Slight adhesions only were met with. The pedicle was very long and thin, it was tied with silk and dropped. The cavity was carefully cleansed and the wound closed with deep wire and superficial cat gut sutures, and the usual Lister dressing applied. The operation was conducted with strict antisepticism except the spray was not employed. The course of the case progressed favorbly—on the afternoon of the third day, she was disturbed by the visit of a daughter with whom she was not on good terms, and her temperature ran up to 102⅘ but next morning it was only 101°.

- On the morning of the fifth day she was not as comfortable as she had been, her tongue was dry and her temperature 102⅕.

The dressing was now removed for the first time, and the cause of the trouble at once found. There was a good deal of swelling at the edge of the wound, some redness and the wires were found imbedded and evidently causing a good deal of tension. They were removed and from each opening a small amount of pus escaped. The deep portion of the wound adhered firmly, superficially it gapped slightly in parts. The wound was strapped and thickly covered with boracic acid, and over that absorbent cotton and a flannel bandage. In the evening the temperature was 101⅘ and on the next morning was normal; some pus continued to escape from the openings made by the wire, and from the wound itself, but this has now nearly completely subsided. The catgut used was some prepared by the chromic acid method, and proved a source of irritation. It was not absorbed; some of the stitches became buried and were discharged with the pus. The woman is now practically well. The only difficulty interfering with the uninterrupted recovery of the case were the wire sutures, which were too tightly applied at first, and the use of too highly prepared catgut.

THE ODOR OF IODOFORM.

By S. S. E. Earp, M.D., Indianapolis, Ind.

To discover a substance that would disguise the odor of iodoform and yet be synergistic, has been a subject that has given the busy practitioner much careful thought.

Iodoform is a valuable remedy, yet I formerly came in contact with many patients who absolutely refused to use it on account of its disagreeable odor. I can testify to the efficacy of the combination of oil of eucalyptus and iodoform published in *Lancet and Clinic*, Oct. 4, which come to hand this a. m. I have used a similar combination for a year past. I first presented the oil of eucalyptus for its therapeutical action only, and accidentally discovered that it disguises the disgusting odor of the drug. It was first suggested to me by one of Mr. Lister's essays, in which he announced that as an antiseptic dressing the following was a valuable formula: Paraffin wax, one and one third parts; oil of eucalyptus, one part; vaseline, two and two third parts. My results have been successful in nearly all instances where I have used iodoform locally, especially in case of syphilitic ulcers of the tongue and tonsils and indolent ulcers in general.

In patients suffering from chancroid, I first apply an escharotic followed by a prescription containing oil of eucalyptus and iodoform, and in nearly all instances have had signal success. I prefer the following combination:

℞	Pulv. iodoform	ʒi
	Oil eucalypti	ʒi
	Bismuthi subnit	℥ss
	Zinci oxidi	
	Ung. petrolei	℥.

M.ft. unguentum.

Sig. Apply locally to parts three or four times per day.

I have substituted acidi tannici for the oxide of zinc, yet it extracts the albumen from the tissues so thoroughly that hardened cakes are formed which are not only disagreeable but retard the healing process.

Clinical Lectures.

ABORTION.

OBSTETRICAL CLINIC OF PROF. W. H. TAYLOR, M.D. AT THE CINCINNATI HOSPITAL, OCTOBER 24th, 1882.

FRANK S. TRIPP, M.D., Intérne in charge.

[Reported by J. A. THOMPSON, Student of Medicine.]

Carrie B——, age 33 years, American, married, resident of Cincinnati 9 years, admitted October 22. The patient has suffered from malaria and from rheumatism. She denies specific trouble. She began to menstruate when fifteen years of age and has always been regular but has suffered occasionally from pain after the flow. She has had one living child and a miscarriage in December last. She missed her menstrual flow seven weeks ago, and one week ago she began to bleed. She has had pain in the back and some bearing down pains. She has been bleeding for a week at present date but does not flow much. There are no clots in the escaping blood. She has been drinking and is rather shaky from its effects, but is steadier this morning than she was last night. She slept well during the past night. Her bowels are constipated and appetite poor.

About one week after the disappearance of her menses she began to be sick at the stomach every morning and this condition continued for a month or more. She took Tansy tea to bring on the flow. Upon vaginal examination the os is found patulous, admitting the tip of the finger and the uterus enlarged. It is perceptible above the brim of the pelvis.

Gentlemen:—There are two facts in the history of the case you have just heard read that should at once awaken suspicion as the true condition of this patient. A married woman, previously regular ceases to menstruate. Following almost immediately upon this cessation of menstruation we have a history of nausea and vomiting, a condition occurring so frequently among pregnant women in the early hours of the day, that it is generally known, both by the profession and laity, by the name of "morning sickness". These two symptoms, taken in connection are strongly suggestive of pregnancy, but they are not diagnostic.

I think the value of this latter symptom has been exaggerated by writers on obstetrics for it is no uncommon occurrence for women in this hospital, far advanced in pregnancy, to tell us that they have never been at all nauseated during the whole course of gestation. When present this symptom is strongly suggestive of pregnancy, but it is so frequently absent in normal gestation that you can by no means infer that women who do not present this symptom are not pregnant. But where in addition to the symptoms mentioned physical examination shows us that the uterus is enlarged, we are almost certain that pregnancy exists. We can not be absolutely certain for the fetal heart sound is the only absolutely reliable sign of pregnancy and that is not demonstrable until gestation is further advanced than in the case now before us. The question is rendered still more uncertain by the fact that the tumor felt above the pubis may possibly be something else than the enlarged uterus, we may be mistaken in the signs obtained by physical examination. The only way to determine this point positively would be to insert the uterine sound. If we found the cavity of the uterus elongated there could be no further question as to the enlargement of that organ. But it is a cardinal rule in obstetric practice never to use the sound when even a suspicion of pregnancy exists. Hence we can only make a relative not a positive diagnosis in this case, but the collection of symptoms is such that we may be morally certain that pregnancy does exist or has existed.

The patient's history as obtained by the house physician, also tells us that she took Tansy tea to bring on her menses. This is a household remedy of little or no potency, but it is not so with the Oil of Tansy. The latter is a very dangerous drug. A number of cases have been reported recently, where small quantities taken to cause menstrual flow have been attended with fatal results. There is no drug in common use that is at all reliable as an abortefacient. The experience of this hospital proves this conclusively for a majority of the patients admitted to the obstetric wards have made at least one, more often several attempts to interrupt gestation by means of drugs.

The fact of their applying for admission, here shows that their confidence in these popular measures for destroying the fœtus has been misplaced.

During the past week, the woman now before us, has suffered from uterine hemorrhage, but as she did not enter the hospital till night before last, we are unable to tell what has been expelled from the uterus, but no clots have been passed so far as we are able to ascertain. A prominent French obstetrician has recently published an article, and you will find it now going the rounds of the medical press, in which he says it is possible to distinguish an abortion in the early months of pregnancy from a return of suppressed or delayed menses by the presence of clots in the flow caused by an early abortion and their absence in the flow of returning menstruation.

The present case, in addition to many others, which I have seen, convinces me that the distinction is not reliable. In early abortions the fœtus is often too small to attract attention and the blood escaping freely may not coagulate while the menstrual flow is sometimes mingled with coagula.

In the case now before you, while the flow of blood has never contained clots, we have here the enlarged uterus, and other symptoms that make us morally certain that we have not a return of suppressed menses, but an interruption of pregnancy, an abortion. Another statement recorded in the history of the case as given by the woman herself is worthy of special attention. She says that she was regular until seven weeks ago, but we find on palpation that the uterus is perceptible above the pelvic brim. This in itself is conclusive evidence that she is mistaken in the supposed duration of her pregnancy. The uterus sinks in the pelvis in the first months of pregnancy, and only rises above the pubis after the third month. So we have here an abortion to treat, that is occurring in the first three months of gestation, or in the earlier part of the fourth month. Late abortions require an entirely different plan of treatment, but time forbids our entering at length into the discussion of it this morning.

In the treatment of all abortions, the first question to be determined is whether or not it is possible to prevent the threatened destruction of the fœtus and secure the birth of a child at full time. If you believe this possible rest in bed and large doses of opium are the remedies you should employ. But if the abortion is inevitable the indications for treatment are to empty the uterus as soon as possible.

"There is no safety except in an empty uterus". It is the custom of most physicians to give ergot in these cases for the purpose of arresting hemorrhage, and promoting the expulsion of the fetal membranees and decidua. This custom I do not approve. Ergot can only arrest hemorrhage by causing contraction of the muscular fibres of the uterus. Now in this early period of utero-gestation, the uterine muscular fibres are so little developed that its action can have little or no effect in controlling the hemorrage. If ergot should cause contraction of the uterus it would close the os and thus defeat the object for which it is given, so I never use it in treating abortion. The proper treatment is to insert the finger and gently scrape away the membranes and decidua.

If the membranes are unruptured, a very rare occurrence, great care should be taken not to rupture them. The so-called placental forceps should not be used in these cases. While they may be inserted further than the finger, you have no means of knowing whether you have seized a portion of the membranes or some of the proper structures of the uterus and great harm may be done by their employment. Where instrumental interference is demanded use only the dull wire curette. With it you can remove all the membranes and decidua and can do no serious harm. The sharp curette, recommended by some prominent writers, is like a knife that will cut away healthy mucous membrane as readily as fetal membranes and should not be employed in the uterus already made very susceptible to injury by the intense congestion which pregnancy induces.

But often when the physician is called to see a case, the os is not sufficiently dilated to admit the examining finger. Then your treatment should vary in accordance with the occurrence or non-occurrence of hemorrhage. In the present case, where the woman is not flooding much, we are giving her simply the mucilage of Acacia as a placebo and waiting for nature to effect a cure. Should there be much bleeding more active treatment must be instituted.

Most text books recommend the vaginal tampon for these cases. But in early abortions it is better to plug the os uteri. Bear in mind the distinction, that it is only in cases occurring in the early months of pregnancy, that this method is applicable. Late in pregnancy, there is only one circumstance that should justify the insertion of a plug into the os uteri. But in the early months it can be resorted to without danger. The cavity of the uterus is so small that it can contain at most only three or four ounces of blood and its walls are so firm that it can not be distended. Cotton, a roller bandage, twisted into the shape of a cone or a sponge tent may be used as a plug. This plug by absorbing the blood, expands, and thus dilates the os, a condition we very much desire to obtain. The blood confined in the cavity excites uterine contractions, and thus the second condition favorable to expulsion of the membranes is obtained. The plug must not be allowed to remain in situ more than twenty-four hours, and it would be better to remove it in twelve. In this time it becomes very offensive from decomposition of the retained secretions, and if allowed to remain longer, would favor the development of septicæmia, the condition most to be feared in abortions. For this reason also, it is important to remove all of the decidua as soon as the os is sufficiently dilated by the plug. There is no placenta at three months, although writers in the journals often speak of the placenta in the early weeks of pregnancy. The prognosis in this case is favorable. But professional experience does not bear out the popular impression that there is little or no danger to the woman in an abortion. Probably one in ten die from its effects.

GOOD SAMARITAN HOSPITAL.
SERVICE OF PROF. JAS. T. WHITTAKER.

[Reported by Dr. W. H. Wenning.]

DIABETES MELLITUS.

Gentlemen: This patient whom I present to you to-day comes to us without a history; I shall therefore proceed to examine him before you. You hear that in response to our questions he says he has been healthy up to three years ago. He never was very strong, but at that time was troubled with palpitation and a feeling of great trepidation, for which he took a tonic which improved him somewhat. Two years ago he became excessively thirsty so that he drank probably two gallons of water daily. With this excessive thirst was associated excessive urination, so that it appeared that "the water he drank flowed right out again with his urine." He was compelled to get up six to eight times at night and as often during the day-time he had to urinate. The quantity was always about the same, amounting to about fifteen ounces at a time. The amount passed per day was thus about one hundred ounces, say six pints, double the normal quantity. Another symptom was a morbid appetite. The excessive thirst, you hear him say, was what first led him to consult a physician. What do you think is the matter with him? I hear you all say diabetes, which is the fact. He says, in addition, that he has a very dry skin, except about the head; but no cough, no pain, no neuralgia. His bowels are mostly constipated. He never had any difficulty of vision except when he resorted to the use of opium. He was always somewhat hard of hearing. He describes his taste as sweetish and says that his friends declared the odor from his mouth as peculiar, also his urine had a peculiar smell—that of new mown hay. I will show you now his urine. You observe that it has a thick foam upon its surface; this is nothing extraordinary except that although it has been standing on this table for some time the foam persists, which suggests that the fluid is sticky. It has a straw color with a greenish tinge. It weighs 1035. Let us proceed to examine it closer. This we may do according to several well established methods. The simplest method is the taste, which was the method resorted to by Willis who arrived at the information of the presence of sugar first in this manner. But we have now surer and less offensive means. We evaporate the urine and dissolve the residue in alcohol when the sugar crystallizes out and has the coarse properties of grape sugar, or we may cause it to ferment and measure the quantity of carbonic acid gas in estimation of sugar it contains. It differs from common or cane sugar in being not so soluble, but undergoing fermentation more readily. Besides these tests we have, as I have said, numerous easier tests; that most commonly used is Trommer's. It is simple and yet when not carefully used may lead to error. We must bear in mind that even healthy urine may contain sugar and it is only when we have it present constantly and in quantity that it is pathological. Hence mellituria or glycosuria is not necessarily diabetes. For qualitative analysis Trommer's test is the best, but for quantitive analysis, Fehling's. The increased specific gravity is considered an evidence of the presence of sugar, but it is not always indicative of, nor corresponding to the amount of, sugar because it is due to other solids, particularly urea, which are increased in various wasting diseases, and especially in diabetes, on account of the predominance of animal food which is converted into urea and the urates. Healthy urine varies between 1015 and 1025, diabetic between 1030 and 1040; this specimen stands, as you see, at 1035. The point is the weight is not wholly due to sugar, but to other solids too. Hence diabetic urine may be light, 1008-10 with sugar enough present, but little other solids.

We will now test the reaction. We find it acid, which is, naturally enough, always the case in diabetic urine. As we simply heat the urine with liquor potass. you observe that the portion that is heated becomes darker than the rest, owing to the conversion of its sugar into caramel. This easy test is most apparent when we have two test tubes full of urine, one heated, the other not, and compare one with the other. It is not as delicate nor as sure as Trommer's. We will now proceed to try Trommer's test, the best bedside test for sugar in the urine. It depends on the principle that sugar in the presence of an alkali deoxidises a metal supersalt. But very few people know how to do it right, and hence their erroneous conclusions. We first fill a test-tube—not too full—(about one-fourth to one-fifth), with urine, then add the alkali, the liquor potassa or soda (1 to 33) about one-third of the amount of urine slowly pouring it down by the side of the tube until we have a decided alkaline reaction. We then add the coloring salt (sulphate of copper, one part copper to six to ten of water), a drop or two at a time which ought to show at once a floccular deposit. We now shake it up, and if there is sugar present the deposits will all dissolve; you see it does here. But if there had been no sugar the deposit would have remained undissolved. We now continue to drop in the copper until the deposit will not dissolve with repeated agitation, that is, until the solution becomes partially opaque. Next we boil the specimen and observe the reduction of the copper by the sugar in this salmon-colored precipitate. The secret of Trommer's test is this. The precipitate must show itself at once. Healthy urine will show a light precipitate in time. Diabetic urine must and will show it quickly and in quantity. How many mistakes are made for want of knowledge of this simple fact! Why the chemists do not lay stress on this point, I never could understand.

You notice that we had here first a heavy white precipitate which showed itself the moment we applied heat. What is it? "Albumen" some one says. No! It is not albumen, for you observe as we drop in nitric acid the precipitate all clears up. "Phosphates?" Yes.

Albumen is present only in a minority of cases, whereas the phosphates are generally increased. We see that the white deposit formed here under heat is cleared by nitric acid, showing that it is not albumen but phosphates, a very material difference. Phosphaturia and glycosuria often alternate in diabetes mellitus.

Let us now take the symptoms of this case in their proper order: First, the excessive thirst and great urination, the latter necessitating a frequent rising at night to pass water. This symptom is often found in old persons, where it is not due to diabetes but to enlargement of the prostate causing a decomposition of urine and therefore greater irritation. Consequently we find this symptom frequently in age. Yet old people may also have diabetes, but the disease, though occurring at all ages, is most common in middle life. The quantity passed is often enormous, varying from one to seven gallons and even more per day. As it passes it frequently irritates the urinary organs, causing an eruption by the deposit and decomposition of sugar about the prepuce or labia minora. When you get a case of extreme pruritus genitalium always suspect the presence of sugar. The grosser symptoms then are excessive thirst, excessive urination and the presence of sugar in the urine. We will now take into consideration the lesser symptoms of the disease. These are first and pre-eminently a disturbance of the nervous system.

Claude Bernard observed that he could produce sugar in the urine of rabbits by irritating the floor of the fourth ventricle of the brain. He had already then recognised the glycogenic function of the liver, and it was while seeking an explanation of it that he was led to experiment on the nervous system. The question arose how did the sugar get here. In the portal vein there were but small traces of sugar found; neither did it appear elsewhere in the blood. Claude Bernard then looked to the nervous system for the cause. It had often been noticed before that some trouble of the mind, grief, fright or melancholia, preceded the disease. This patient also tells us that he had mental troubles when the symptoms of diabetes began to appear. So we find in times of great financial depression as, for instance, in Berlin at the time of the great collapse of stock speculations, a large increase of cases of this disease recorded by different observers. So also injuries to other parts of the spinal cord, the sympathetic system in the neck, the abdominal nerves (celiac plexus), a shock to the nervous system in general are common precedents of the disease.

The irritation at the nerve centres paralyzes the vessels and permits a greater flow of blood to the liver. Hence more sugar is made than can be decomposed in the lungs.

The great dryness of the skin in spite of the ingestion of such enormous quantities of water is due to the fact that the presence of sugar spoils the osmotic quality of the blood. The sugar thickens the blood, as it were, so that the water cannot escape to the cells and is spilt over into the kidneys and thus washed out.

So also the great excess of hunger (boulimia) is due to the fact that the tissues cannot receive their food. We find then polydypsia and boulimia constant factors in diabetes mellitus. The liver is always swollen, the kidneys hyperæmic, but one organ is shrivelled and shrunken often and that is the pancreas. This condition we find in more than one-half of all the cases. It is perhaps due to an affection of the cœliac plexus of nerves.

The skin frequently becomes eczematous, and furuncles and bed-sores are liable to occur. Disease of the lungs, phthisis, often supervenes on account of the disturbance of general nutrition; not that diabetes produces the bacillus tuberculosis, but that the effete products in the lungs form a soil, a nidus, for the development of the parasite. Certain cases are stricken down as if by apoplexy, becoming suddenly comatose. This terrible accident may take place even when there is a diminution of the quantity of sugar. Fortunately diabetic coma is rare. No satisfactory explanation has yet been given for this symptom. It was once supposed to be due to an anæmia of the brain, which is not found to be true. By others it was supposed to depend upon acetonemia. Ebstein thought necrosis of the tubuli uriniferi to be the cause, and Frerichs regards the sugar in excess as the cause of the necrosis. Whatever theory we adopt or refuse, we may not forget the fact of diabetic coma in recognition of the sudden gravity which may thus be put upon the lightest case.

From what has been stated thus far you will understand that the prognosis, as regards cure, is not favorable, though individuals affected with this disease may live many years. Absolute cures are very exceptional indeed.

As regards treatment we must think of three indications: 1, restrain the diet of the patient so as to prevent the further entrance of sugar or sugar-forming substances; 2, prevent the further formation of sugar; and 3, to substitute something for the sugar that is wasted. First then we must give food that contains no sugar or starch which is converted into sugar. This cannot be absolutely done, but we may restrict it to its minimum. Thus meat, fresh and salt or smoked, is the basis of diet. Milk must be prohibited, as it contains lactic sugar; it, with sugar, must therefore be excluded from tea and coffee. Vegetables that contain no starch may be allowed, as cabbage, spinage, lettuce, cauliflower and asparagus. Potatoes and bread must be prohibited. It is most difficult to interdict the latter, as it forms the basis of vegetable nutriment, is, in fact, the staff of life. As all cereals are to be withheld we may bake bread with almonds, nuts, or gluten without starch. The latter, however, is very insipid. We may allow the patient occasionally a piece of toast. Never keep the patient long upon diet absolutely free from starch. Break the rule whenever he is better and thus sustain his general health.

To prevent the further formation of sugar we have but one agent and that is opium. Opium is a specific in diabetes. Its action is perhaps due to its influence on the nervous system by diminution of the irritation. As no other narcotic will take its place, we are compelled to fall back to it from time to time even if the patient acquires the opium habit. But there is no danger of the opium habit in diabetes; no patient can take it long enough, as the disturbance of the digestive system caused by the opium always compels its disuse for a time. Codeia does not constipate so much, nor to the same degree impair the digestive system; hence you may use it as a substitute for other principles of opium.

Finally we may endeavor to find a substitute for the sugar. Lactic acid wss recommended by Cantani, but in time causes diarrhœa and rheumatic pains. Glycerine, recommended by Schultzen, may be given with less injury than any other substitute, but it loses its effects in a little while. Besides these we have some saccharine matters, as mannite and inosite, that substitute ordinary sugar without its bad effects.

Disinfecting gargles (borax and salicylic acid) best allay the bad taste in the mouth. Ice pills best check the thirst, and warm baths, inunctions (vaseline) best relieve the affections of the skin.

AN UNDESCRIBED DISEASE OF INFANTS.—Dr. Riga (*Movimento Med. Chir.*) has observed a pernicious disease of the mucous membrane of the child's mouth. It consists of the formation of a false membrane between the end of the tongue and the frænum. The membrane is round and small. Children, in whose mouth this appears, lose strength rapidly, refuse to nurse, and ninety per cent. of them die. The disease has been observed only in summer and is always associated with intestinal catarrh. It lasts from two to eight weeks. It is found in children only during the first dentition, it is not contagious, but appears to be infectious. In the Terra di Levoro the disease has been endemic for sixty or seventy years. During the past decade, there has been no diphtheria in that region. No scientific study of the disease or membrane has yet been made.—*Phys. and Surg.*

DEFORMITIES OF THE FINGERS.

By P. S. Conner M.D.,

Professor of Anatomy and Clinical Surgery, Medical College of Ohio, etc.

Being Part of a Clinical Lecture Delivered at the Good Samaritan Hospital, Oct. 16, 1882.

I have the opportunity to-day, gentlemen, of presenting to you an interesting specimen of a malformation which, while not very rare, is something of a curiosity and deserving of study. This little baby, now nine months old, has on each hand, as you see, a double thumb, a perfect index finger, and a somewhat paddle-like mass in which are embraced a middle ring and little finger and also a rudimentary supplemental digit. The child, therefore, has seven fingers on each hand.

There is not, as is so often the case, any corresponding malformation of the toes. The mother tells me that the child's father's hands are malformed in precisely the same way. Upon careful examination I find that the double thumb on the right hand has a double metacarpal bone, or rather that there are two quite perfectly formed thumbs with their supporting metacarpals (more correctly first phalanges, for it is the metacarpal bone and not the phalanx that is wanting in the thumb), the two thumbs being enclosed in a common skin-covering. On the left hand, as is very often the case, the two thumbs are supported upon a single metacarpal bone, which has, as we know from the examination of other cases, two more or less perfectly developed articular facets. Such a case as this is interesting to us whether we consider the deformity itself, its mode of production, or the ways in which it may be more or less completely relieved, in other words, its anatomy, its embryology, or its surgery. Two different, frequently but by no means necessarily associated malformations are here present, viz.: webbed fingers and extra digits. The hand, as we know, originates in a little shoulder bud at about the end of the third week of intra-uterine life; and the normal differentiation of the fingers is not complete under three months. Now, if such separation does not take place at all, or is arrested at some stage or other, the original paddle-like condition remains more or less completely, and the fingers are correspondingly webbed: and we have a deformity from arrest of development. Again, if in the differentiation of fingers, which is brought about we know not how, an excess of formative action takes place we have produced extra digits, complete, partial, or scarcely more than rudimentary, as it may happen, there being usually but a single extra one either on one or both hands, but sometimes many more; as high as thirteen fingers on each hand and twelve toes on each foot having been observed by Voight. The arrangement of the extra finger or fingers varies very much. The hand may be complete and perfect, differing from the normal only in the presence of a sixth metacarpal bone and a sixth separated healthy finger; a rare condition, but one that has been observed. Or the extra digit may be attached to the outer facet of a broad ended first or fifth metacarpal bone; or to the side of such metacarpal bone; or to the side of the first phalanx; or to the distal extremity of such phalanx, a deformity which is usually seen in the thumb, which is then ordinarily *bifid*. Not seldom, when the attachment is to the side of the phalanx, much less frequently of the metacarpal bone, the union is by means of a narrow fibrous pedicle. The other deformity, the congenital webbing, *syndactylism* as it is termed, (as the first is known as *polydactylism*) also varies greatly in its extent. It may embrace the whole hand, which is then hardly more than a "flipper," or may affect only certain of the fingers, especially the ring and middle ones, which are often seen fastened together while all the rest of the hand is normally developed. The web may be very thin and wide, or the fingers may be closely pressed together, the phalangeal bones being even at times laterally fused, though such malformation is much rarer than the others. The web may be very short, scarcely longer than the natural one, or it may extend out to the very tips of the fingers. Usually two distinct nails are present, but often times there is complete fusion into a single one. In the case before us we have present two of these varieties of webbing. The two thumbs are brought closely together, but you can easily both see and feel that they are separate, though there is a common skin-investment. The inner four fingers, however, are so united that you cannot recognize by the eye any interdigital grooves, and it is only by feeling that we can determine the number of fingers. A very interesting feature in these cases of webbed fingers, less often, however, observed than in cases of polydactylism, is their appearance generation after generation, their hereditary transmission. I have already told you that this child's father is similarly malformed; it may, therefore, be able with great certainty to know its own father—a wise child. There are a nnmber of cases on record in which two or more generations were thus similarly marked. Some years ago I reported in the "Clinic" the history of a family in which through at least three generations syndactylism was observed, and that in 29 out of 62 members, nearly one-half.

Can anything be done, or is it advisable to do anything for the relief of these malformations? In cases of polydactylism if the extra digit is normally formed and normally placed in proper line with the rest of the hand there is neither reason nor excuse for any surgical interference. The hand, it is true, is broader than usual, but its strength and usefulness is certainly not impaired. Nor when the thumb is bifid or double with close apposition of its parts is there any absolute necessity for the removal of the supernumerary portions. For appearance sake, however, such operation may very properly be made if desired by the individual or the parents, particulary so if the affected person is a female. When the extra thumb or little finger is attached to the articulating extremity of the metacarpal bone common to it and the normal digit, complete removal of it necessitates opening such articulation; and through fear of the resulting inflammation it has been advised to separate the supernumerary finger at the epiphyseal line of the first phalanx. In the two cases in children under one year of age in which I have removed an extra thumb similar to the one on this child's left hand, no joint inflammation was developed. It is, I am sure, decidedly better not to remove any part of the extremity of the metacarpal bone, as the unnecessary and at first unsightly projection will in due time be absorbed. If the extra digit is free, and stands off from the rest of the hand, especially if it is laterally atttached either to the metacarpal bone or phalanx it should certainly be taken away, and the earlier the removal is made the better. At the time of birth or soon after, such amputation is a very simple affair, it being generally necessary only to snip off the finger with a pair of scissors. Occasionally when the attachment is by a pedicle, somewhat troublesome bleeding follows the cutting off, so that it is well, as a matter of precaution, to throw a ligature around the attaching cord before using the scissors or knife. How shall we treat webbed fingers? or, shall we treat them at all? It would seem to be the simplest thing in the world to separate two fingers attached by a wide, thin web, made up of two layers of skin with a very little connective tissue interposed. And so it is; but experience has shown that such operation is almost certain to be followed by readhesion of the divided surfaces and consequent reproduction of the deformity. Hence it should never be made. If by a preliminary perforation of the base of the web and the insertion of a metallic thread or button or piece of rubber cord an opening with thoroughly cicatrized edges can be secured, then as a secondary operation the web may be divided and the edges of the cut prevented from coalescing. The continuous pressure of an elastic cord upon the distal end of the web has at times produced slow division with such equally rapid cicatrization as to effect a permanent cure. But the best operation by far in cases of complete webbing is that of Didot, of Liege, in which a flap is taken from the dorsal surface of one of the united fingers and the adjacent part of the web, and one from the palmer surface of the other finger and of the web; each flap which includes one-half of the thickness of the web being wrapped around the denuded surface of the finger to which it is attached. Of course, as the flap at once contracts a good deal, considerable stretching is required to bring it into proper position and not a little tension is made by the stitches; so that, unless primary union is secured recovery must take place quite slowly. When, as in the ulnar half of this child's hands, several fingers are bound up in a common skin covering without any apparent separation between them, can any operation be made with reasonable prospect of saving a fair looking and useful hand? I think not, unless the entire skeleton of a central finger is removed, leaving its soft parts to assist in the covering in of the separated internal and external fingers; and in making such operation, especially upon a young subject, it should be borne in mind that the vitality of one of these deformed hands is feebler than normal, and that there is no little danger of the sloughing of considerable portions of the flaps. It is in my judgment, the part of wisdom to delay all operative interference in the ordinary cases of webbed fingers until the patient is at least ten or a dozen years old, or better until after the completion of the pubertic changes. When it is a double thumb or a double little finger in which the adherence exists, the supernumerary digit may be safely removed while the patient is an infant.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

[Reported by T. R. Coffman, M.D.]

CASES ILLUSTRATING INFLAMMATORY DISEASE OF KNEE-JOINT.

The knee-joint is the largest in the body, inflammation of it results most disastrously, in this respect it is hardly below the hip. In one case the whole joint is permanently enlarged and anchylosed, in another the synovial sac is filled, largely distended, with fluid; whilst an injury not great may result in suppuration; often the resultant does not correspond to the cause; destruction follows a slight trauma; whilst restoration is sometimes affected in the most unpromising cases; no joint in the body is more influenced by diathesis, habit of body, tendency to disease.

I present to you two cases, and call up two other cases from the Clinic of the spring and summer which many of you will doubtless remember.

Case 1. Hypertrophy, chronic inflammation.
Case 2. Hydrops articuli.
Case 3. Suppuration within the cavity.
Case 4. Acute inflammation.

CASE I. HYPERTROPHY—INFLAMMATION, CHRONIC.

This case is valuable in two aspects, first, from its own intrinsic interest; second, it enables you by contrast to study Case 4, the two occupying the extremes; this shows the diastrous work of inflammation, the other illustrates the initiative, the very first stage of the disease.

Some months ago, during an attack of rheumatism, the left knee became very much swollen and tender, as that gradually diminished and the symptoms of rheumatism subsided the right knee began to swell, and now, for several months, has been in its present condition of enlargement, painful to the touch or to jarring of any kind, no discoloration, no fluctuation, abridged motion of the joint, in fact it is almost motionless.

In acute synovitis the fluid is effused within the capsule and the swelling resulting therefrom is characteristic, taking as it does exactly the shape of the synovial membrane—hence the enlargement in front of or upon the femur, bulging on either side of the patella, being more prominent on the inner than outer aspect of the knee. The patella is lifted up and floats, as it were, on the fluid beneath it. In other forms of hypertrophy, due to enlargement of the bones or of the fibrous tissues investing the joint, the natural outline of the knee alone is exaggerated, the patella is pushed upwards and forwards but still maintains its close connection with the femur. Here the swelling seemingly partakes of both kinds of increase in size—that due to slight, very slight, effusion within the capsule and to exudation of plasma within or upon the tissues around the joint.

In chronically inflamed joints (if we could but look within), there is to be found a thickened synovial membrane, pulpy in consistence, pinkish-gray in color, and presenting on its free surface a granulating appearance, secreting, exuding or proliferating a thick fluid containing more or less lymph cells; this, when the part is kept at rest, may become organized and lock the joint.

What can be done for this knee towards restoring its normal condition?

1. We must first restore the functions of the joint; this can be done only under an anæsthetic. With force the false bands may be broken and flexion and extension re-established.

2. In breaking these bands more or less blood escapes into the tissues. Elastic compression will prevent further escape and promote absorption of effused plasma.

3. Passive motion must be instituted. Remember that motion is the natural stimulus of the joint, without it the natural functions perish. Rest is not to be lost sight of—be careful that you do not carry it too far.

CASE 2. Some of you will remember during the spring the appearance at the Clinic of a young farmer with an enormously enlarged knee, the result, as he informed us, of an injury received while plowing. The joint was never acutely inflamed, but gradually increased in size. That was his second visit. Some months before his knee was even larger, at that time the joint was aspirated, a large amount of fluid was withdrawn and elastic compression applied. He left the hospital seemingly relieved. The fluid, however, after a few months re-appeared and on his admission the same treatment was employed.

CASE 3. Was shown the class from my private practice. The joint of a little girl was aspirated and a large quantity of pus was evacuated, elastic compression instituted and the limb placed at a slight flexion in a firm Plaster of Paris encasement. I informed you at the time that the integrity of the joint was gone, that I would be glad to compromise and accept anchylosis as the best end attainable.

Both of these cases, Nos. 2 and 3, had had the ordinary treatment of traumatic inflammation—rest, cold, leeches—the disease could not be controlled, in one the termination was effusion that in the end would have destroyed the joint, in the other pus was proliferated. No hope of the restoration of the joint could be entertained. Similar means were employed in the rheumatiod inflammation of No. 1, and yet hypertrophy—the exudation of plastic bands followed. It may be that, with utmost care and skill in the management, exsection and amputation may yet be presented for choice.

CASE 4. ACUTE INFLAMMATION OF KNEE-JOINT.

In contrast to these cases, I bring to your attention this young girl with a sprained joint—a joint acutely inflamed. The knee is hot, swollen and painful, attended with great disability. This is the very initiative of a destructive disease, tending towards anchylosis, it may end in hydrops articuli or, what is worse, in suppuration within the synovial cavity. Here you see the stages of inflammation; in this injury small blood-vessels were ruptured, the escaped blood acted as an irritant, as so many foreign bodies in the tissue around the joint—irritation invites a flow of blood; in this determination you see every factor which characterises acute inflammatory action; change in form, increased temperature, discoloration, great sensibility, modified function.

Can this process be arrested and this joint be saved from destruction, from the almost ruined condition in which you have seen the first three cases?

Elastic compression skillfully applied will expel from this knee the redundant blood and prevent its return. By the elastic bandage we can absolutely control the circulation of a limb. It is one of the most important contributions ever made to the armamentarium of surgery. Formerly we treated these cases, as I have said, by cold, by leeches, by the ordinary roller. Clinical experience shows that they too often went from bad to worse, from the state in which you find this knee to the chronic, damaged state of those.

I now, as you see, apply this elastic bandage from the foot up to and above the knee; in a day or so it may surround the knee alone. This bondage is as painless as it is efficient.

Soon I hope to show you this patient absolutely relieved.

Reports of Societies.

CINCINNATI MEDICAL SOCIETY.

Meeting of Oct. 17th, 1882.

R. B. DAVY, M.D., *Vice President.* W. H. M'REYNOLDS, M.D. *Secretary.*

Vaccinia.

DR. CARR said that he had treated a number of cases of small-pox in the last seven weeks and mentioned two cases, in which it seemed to him that the severity of the attack was due to successful vaccinations. In one family of five children, small-pox made its appearance in the person of a little girl ten years old. The other children were then vaccinated, with the exception of an infant. The operation seemed to be successful in one case, that of a boy eight years old. In the other children the result was negative.

Three or four days after the appearance of the vesicle, this boy was seized with spasms, and small-pox apeared in its most malignant form. There were four cases in this family, and the children in whom vaccination had failed had the disease in a mild form. The unvaccinated infant infant escaped.

The other instance was also in a family of five children. The first attacked was also a girl ten years old. The disease was of a mild character. The rest of the children were immediately vaccinated, and in one of them it seemed to be successful. Four or five days after the crust had fallen from the arm, this child was taken sick with all the premonitory symptoms of small-pox, and the disease proved to be of the confluent type. In all of the other children attacked, vaccination had failed and the disease was mild.

In the two cases where it appeared to be successful, the disease took the confluent form. Both families were in good circumstances and had plenty of room, occupying private residences, and the sanitary condition was good. The virus used was bovine.

Dr. Jno. Davis asked Dr. Carr how many days had passed after the vaccination of the first mentioned case before small-pox appeared.

Dr. Carr answered that it was on the ninth day.

Then, said Dr. Davis, we must infer that the child had been infected with small-pox before it was vaccinated. The period of incubation of small-pox is about twelve days, and therefore this child must have been infected three days before vaccination.

As to the cases where vaccination seemed to take and afforded no protection, we are forced to believe that the virus used was not genuine, which is often the case with the bovine article.

The Doctor had long supposed, with many writers on the subject, that bovine virus is not reliable. It does not run the same course as the humanized. It often begins with a vesicle instead of a papule. When the papule does appear first the following vesicle is irregular and longer in developing. The stage of pustulation is also longer, and the crust does not drop off so easily. Here the doctor narrated a case illustrating this point. He believed the only perfectly reliable virus to be the humanized, which has been proven by running its regular course and showing all the characteristic signs of true vaccination. When a patient is vaccinated and a sore results, he feels safe, but if the physician does not see the sore he cannot be sure that the patient is protected. It is not enough to produce a sore, it must have certain distinctive characteristics in its different stages.

Bovine virus forms an ugly ulcer, which is often long in healing, and sometimes even endangers life. The areola, instead of being confined to a narrow surface, frequently involves the whole arm. And with all its severity its protective power is very uncertain.

The rule that small-pox will not attack a patient after true and thorough vaccination is well established. It is a better protection than an attack of the disease itself.

Dr. Fisher remarked that just such cases as those reported by Dr. Carr prejudiced the Germans against vaccination, and such cases are by no means uncommon. He mentioned two instances which occurred under his own observation six years ago. Vaccination ran its regular course in two children and was followed by small-pox in a severe form.

During the last epidemic he had found many families whom it was impossible to induce to be vaccinated.

Dr. Culbertson, in explanation of these cases, said it is a well established fact that some persons and some families are predisposed to take contagious diseases. He mentioned one family of two sisters, one of whom had had measles, mumps, chicken pox and scarlatina, while the other escaped them all, though exposed every time.

In another family one child had all the above diseases while the other children escaped the infection.

Dr. C. P. Judkins said his experience thoroughly convinced him that some persons are particularly susceptible to syphilization, and his observations at the pest house equally convinced him that some persons are much more susceptible to the infection of small-pox than others. He related a case of a young woman who was pitted by a previous attack of small-pox, admitted to the pest house suffering from a second attack. From this she recovered and had another attack, and then another, until she had four in the pest house, making five in all.

Tertiary Syphilis

Dr. Culbertson said in 1866 he attended a woman who gave birth to a healthy child. In the course of two months the child died, and she passed from under his care. In one year afterward he again attended her and she gave birth to a syphilitic child, which died in a month. She then had a chancre on the nipple and a bubo in the axilla. In another year she was again confined. This last child was not syphilitic but malformed, one side of the head being one fourth larger than the other. This child is now living, a girl thirten years old, and the deformity continues. About a month ago the mother consulted him again, for tertiary syphilis. She had an ulcer on the leg with caries of bone. She has not been pregnant since the birth of the third child. The interest in this case is in the length of time, fourteen years, that the disease has been latent.

Dr. C. P. Judkins said that he was treating a man for syphilis, whom he had treated twelve years ago for secondary symptoms. He then had the characteristic copper colored eruption from the hips down, but none above. He had some alopecia and mucous patches in the mouth.

Now he has the eruption just as well marked as formerly, but it only shows above the hips. He says he has not had chancre since the first eruption, which is doubtful.

The doctor knew certain families, the young men of which were particularly susceptible to the syphilitic virus and contracted the disease where others less susceptible escaped.

He had seen syphilis appear in one case after a latent period of twenty-two years, and in another case after twenty-four years.

He did not believe a woman could give birth to a syphilitic child, unless she, herself, had been syphilized, for he did not consider the male semen to be contagious.

He advised his patients to submit to a regular course of treatment for eight months, or a year before marriage, and even after that, never to know their wives at a time when there was the slightest abrasion upon the genitals.

Dr. Culbertson said he had treated a man for chancre, and in the course of time attended his wife when she gave birth to a syphilitic child which died in two hours. The mother never showed any signs of syphilis, but died of consumption. He also mentioned a case where secondary symptoms appeared twenty-two years after the chancre.

Dr. John Davis said he was sorry to have to differ with Dr. Judkins as to the impossibility of contagion in the male semen. But he was glad the Doctor did not act on his belief, but required a long course of treatment before he would advise mariage. The seman of a syphilitic subject is not harmless. The whole system is permeated by the poison, particularly the fluids, why should the semen alone be free from it? The period of latency may be days, or months, or years. Hence the time which should elapse before marriage as advisable, is a matter for very serious consideration. He had treated a lady from time to time during three years, for syphilitic eczema, which she contracted from her husband. She has ulcers upon the face. arms, and body. She uses a preparation, called the Syrup of Gilbert, which contains ⅓ of a grain of the red iodide of mercury and 15½ grains of iodide of potassium to the ounce. While she is taking this preparation the skin is clear, but when she discontinues it the eruption reappears. By the the use of this preparation the Doctor had known impaired vision, which was supposed to be due to gummatous tumor of the brain, to be restored. By it the nocturnal pains are greatly relieved, and it has been very useful in cases of insanity caused by syphilis. But there are many cases which can not be cured by any means.

Selections.

MEDICINE.

Ehrlich's Method for the Detection of Tubercle-Bacillus in Sputum.—Read by G. A. Heron, M.D,, before the Annual Meeting of the British Medical Association, at Worcestor.

The process known as Ehrlich's method for the detection of tubercle-bacillus in sputum may briefly be described in the following manner:

Sputum is spread in thin layers upon cover glasses and allowed to dry in the air. It is next exposed to a considerable degree of heat, either by being shut up in a properly constructed hot-box for twenty minutes or so, at the temperature of 212° Fahr., or—and this answers the purpose quite as well—the cover-glasses, with the dried sputum of a gas jet or of a spirit lamp. In this way the sputum is thoroughly set. The next step is to stain the sputum with any one of certain of the aniline series of dyes. Fuschine and gentian violet are two of those which Ehrlich has used. These colors are handled in this process in precisely similar ways, and, therefore, it is necessary to describe the use of only one of them. Fuschine was the color which I used in my demonstration at Worcester, and I will speak of it now. A saturated alcoholic solution of that dye is made. This is added, in certain proportions, to a saturated watery solution of aniline prepared in this way:—Five cubic centimetres of distilled water. The mixture is allowed to stand for about twenty minutes, and, during that time, it should be frequently shaken. The aniline water is then passed through a moistened filter, and the filtrate should be as clear as good drinking water. It contains from three to four per cent. of aniline. To thirty cubic centimêtres of this clear filtrate are added thirty drops of the saturated alcoholic solution of fuschine. A glistening metallic film will probably happen, then more of fuschine must be added until the mixture is of the proper strength. Beginners are likely to find some difficulty at this point, for the distinct film having appeared, the desired result can be obtained with certainty by allowing the mixture to evaporate in the air for some hours.

And now, as to the use of this coloring fluid. The cover glasses, and the layers of sputum upon them prepared in the way already described, are allowed to float for thirty minutes, sputum downwards, upon the surface of a sufficient quantity of of the staining fluid poured into a suitable vessel. When removed from the fluid at end of that time, the sputum will be stained with a deep red color. The next step in the process is to remove by far the greater part of this deep red color. That is done by washing the cover-glasses, with the sputum upon them, in a mixture of one part of the acidum nitricum (not acidum nitricum dilutum) of the *British Pharmacopœia*, and two parts of distilled water. Here again the beginner may find some difficulty, for he is apt to leave too much of the red dye upon the sputum. The consequence of that is, that when he comes to examine his work under the microscope, he finds large red-pink smudges through which he can see little, if anything, distinctly. After the washing with nitric acid there should be at most, a slight white-pink tinge visible to the naked eye in the sputum. The acid is washed out by dipping the cover-glass in distilled water. If the specimen were now examined microscopically, and if bacilli of tubercle were present in it, they would be seen here and there, as red rods, and perhaps in clusters also, upon a colorless or whitish-pink ground. When the bacilli are numerous they could be well seen, even with so faulty a back ground of color as this, but when they are few they might easily escape notice, unless their red color were thrown into relief, as it were, by the use of some contrast color. With this object, the process of staining is completed by allowing a drop or two of a saturated watery solution of methyline blue to fall upon the sputum after the nitric acid has been washed out with water. The blue color is washed off to a certain extent with water, just enough of it being left to give a distinct light blue tint to the sputum. The specimen should be examined, while still wet, with the microscrope. If tubercle-bacilli are present, they will be seen as rods upon a blue ground. All the constituent parts of the sputum and all sputum or other known bacteria take the blue coloration;

the tubercle-bacillus alone retains the red color due to the staining with the fuschine and aniline dye.

In the specimens which I prepared in this way before the Section of Pathology at Worcester, the bacilli was seen in large numbers. That is not usual. In examining a specimen of sputum for these organisms, one may reasonably expect to see one or two of them in a microscopic field, if they be present in ordinary numbers. When they are present in large numbers a cheesy-like portion of the sputum should be searched for and examined.

The tubercle-bacillus measures in length from $\frac{1}{7140}$ in. to $\frac{1}{11600}$ in. These measurements have been made on several occasions by Mr. E. M. Nelson, for whose kind help I am much indebted. Under a sufficiently high power, the blue-colored bacteria if the sputum be not fresh, they average in length $\frac{1}{30630}$ in.

The tubercle-bacillus, so far as my experience goes, is not at all interfered with by the early effects of the putrefactive process. I have often found this bacillus present, in large numbers, in a specimen of sputum which, when fresh, seem to swarm with these organisms. At intervals, during the last six weeks, I have examined this same specimen, which has been allowed to putrefy while freely exposed to the air. Certainly, in this particular specimen, the organism has not diminished in numbers during the first six weeks of putrefaction.

I have heard it stated in public, that very high powers are necessary for the microscopic examination of the tubercle-bacillus when Ehrlich's method has been followed. This is certainly a mistake, for I have often myself seen the organism, and shown it to other people, under so low a power as 150 diam. My friend, Mr. Nelson tells me that he has seen the tubercle-bacillus under a power of one hundred diam. I should not however advise a beginner to use such low powers as these. A power of 500 diam. is sufficient for the purpose of easily verifying the presence of this organism.

A condenser of some sort is a useful addition to the microscope in this line of observation, but it is not a necessity, except, of course, when a detailed examination is made. The tubercle-bacillus can be well seen by throwing a strong light directly into the line of vision. With good light, an ordinary mirror will of itself give ample illumination. The necessary colors have been supplied to me by Messrs. Morson & Son, of Southampton Row, W. C.

In speaking of these dyes I ought to have said, that I find it unnecessary to go often through the process of preparing the coloring mixtures. The fuschine and aniline dye and the methyline blue color were nearly two months' old when I used them at the Worcester meeting. As has been mentioned above, gentian violet may be used instead of fuschine. The contrast color would, in that case, be given by Bismarck brown. Methyline blue would, of course, make a poor contrast to the violet-colored bacilli.

These aniline dyes are apt to fade very quickly. They may illustrate markedly the presence of the tubercle-bacillus at the first examination of a prepared specimen, and within twelve hours there may not be one of the organisms visible. I have, however, several specimens which have preserved their colors fairly well for rather two months.

Ehrlich's process, properly used, in the way indicated, will demonstrate the presence of the bacillus of tubercle in sections of tissue just as clearly as in sputum.—*British Medical Journal.*

CARDIAC AFFECTIONS IN CONNECTION WITH NEURALGIA OF THE LEFT ARM.—The session of the French Association for the Advancement of Science terminated with an important communication by M. Potain on the above subject. It is well known that irritation of the digestive organs can produce, by reflex action, dilatation of the right side of the heart or even of the left ventricle, and, in consequence, peripheric neuralgia. This will be shown in the following cases: 1. A soldier was wounded in the left arm, and the limb was amputated. The healing of the stump caused a tension of the nerves, and the young man, long after his recovery, became subject to palpitations, suffocations, and hypertrophy of the heart. Injuries of this nature are often followed by hypochondria. 2. Another young man had his forearm crushed, and this resulted in a comminuted fracture, with painful cicatrices. After great fatigue he became subject to palpitations and oppression, so that it was necessary to give up all violent exertion. He had all the symptoms of the heart, and was also hypochondriacal. 3. A soldier had the left armpit pierced by a ball, and it produced a reaction when healing which prevented his extending his arm, and necessitated forced movements which caused great pain. The patient suffered from palpitations and oppression, and some time after M. Potain discovered that there was a considerable hypertrophy of the heart. Here are three cases of patients who, although with a perfectly healthy heart before the wound was received, suffered afterwards from palpitations and hypertrophy. Here digitalis was indicated. These symptoms differ from those in which the hypertrophy being situated on the right side, is caused by irritation of the digestive organs. In such cases digitalis is of no use, but one must have recourse to treatment appropriate to digestion.

M. Verneuil also observed an analogous case. A patient from whom the left arm was amputated suffered great pain from the ends of the nerves of the brachial plexus fastened around the bone becoming compressed between the two during the healing of the stump. The patient suffered from hypochrondria and cardiac affection. The resection of the arm was followed by cessation of the pain and the cardiac affection. M. Verneuil asked whether the left brachial plexus had not in every case a particular action on the heart, and consequently if in certain derivative indications on this organ it would not be better to act on the left arm than in other places?

M. Duplouy has also seen a case of the same nature in which they had recourse to the extirpation of a neuroma with success.

M. Ollier also saw a case in which the pain, being in the leg, necessitated the resection of the internal saphena. This fact seemed to extend to the leg the remarks of M. Potain with reference to the arm. The cases collected up to the present seem to demonstrate that the influence on the part of neuralgia of the left side is considerable; but one need not be surprised to discover that peripheric nervous injuries of the right side exhibit analogous phenomena.

M. Loudet knew of an old woman who suffered from peripheric pains in right arm, and who from time to time, and even when the symptoms were painful, suffered from palpitation, paleness, and suffocation. This tends to prove that traumatic neuralgia does not alone take part in the etiology of these secondary cardiac affections, and that spontaneous neuralgia is also capable of acting in the same manner.—*Medical Press and Circular.*

A NEW METHOD FOR THE DETECTION OF THE TUBERCLE-BAICLLUS.—Read by Heneage Gibbes, M.D., before the Annual Meeting of British Medical Association in Worcester.

The following will be found an easy and simple method of demonstrating the tubercle bacillus. It takes a short time to carry out, and the bacillus is stained so deeply, and is differentiated so fully from the surrounding substance, that it can be seen with the greatest ease with an ordinary quarter-inch object-glass and daylight.

The methods hitherto published have often failed, and, when successful, have only stained the bacillus so faintly that high power or artificial illumination is required to show it in anything like a satisfactory manner. Koch's original method has utterly failed in the many cases in which I have tried it. I think, then, that the ease and simplicity of my method will make it acceptable to the large number of the profession who may wish to find the bacillus tuberculosus for diagnostic purposes, whatever its value may ultimately prove to be for that purpose.

It is necessary to make two staining fluids—one, magenta, which stains the bacillus; the other, chrysoidin, which stains the surrounding substance, but not the bacillus. The magenta solution is made thus:

Magenta..................	grammes	2
Pure aniline...............	c.c.	3
Alcohol, sp. gr. 830........	c.c.	20
Aq. dest..................	c.c.	20

Dissolve the aniline in the spirit; rub up the magenta in a glass mortar to a fine powder; add the spirit gradually while stirring until all the color is dissolved; then add the water slowly, still stirring, and put in a stoppered bottle.

The chrysoidin solution is made by rubbing up the color in a mortar with distilled water until it is saturated, and then adding a crystal of thymol dissolved in a little absolute alcohol, to make it keep. Neither of these solutions should be filtered when made. The chrysoidin should be kept in a dark place. A dilute solution nitric acid is also required, which is made by diluting one part of commercial nitric acid with two parts of distilled water. The aniline colors are made by the Badesche Aniline Fabrik, 22 Bush Lane, Cannon Street.

The object of the process is to stain the sputum, or section, as the case may be, with a color which the dilute nitric acid will remove from everything but the tubercle bacillus, and the subsequent staining with chrysoidin is only required to throw up the stained bacillus and make it more prominent. In Dr. Ehrlich's process, the stain for the bacillus is too faint, and the vesuvin, used to stain the ground substance, too opaque; consequently, the bacillus appears a faint pink color on a dense yellowish brown ground, and is not easily made out without high power of special illumination. His method of dissolving the aniline in water, in which it is very sparingly soluble, is also open to objection, as it is very apt to vary in the amount taken up by the water.

The manner in which the stains are used is as follows. A little sputum is spread on a cover-glass and allowed to dry; it is then passed three or four times through the flame of a small Bunsen burner, and left to cool. A few drops of the magenta solution are filtered into a watch glass, and the cover-glass, with the sputum downwards, placed on it, care being taken that no air-bubbles are under the cover-glass; it is allowed to remain from fifteen to twenty minutes. It is then put into the dilute nitric acid until all color has been removed, which will take a few minutes; but it may be left for ten minutes without damage. It is then washed in distilled water until all the acid is removed, and placed in a few drops of chrysoidin solution which have been filtered into the bottom of a watch-glass; a few minutes will suffice to stain it deeply. It must then be again washed in distilled water, and the superfluous water drained off on filter-paper; it is then placed in absolute alcohol to remove the remainder of the water, and dried thoroughly in the air. When dry, a drop of Canada balsam solution is placed on the cover-glass, and it is mounted in the usual manner.

Glass funnels should be used to protect the fingers in filtering the stains. Sections of hardened tissues are treated in the same manner, with the necessary modifications, and the bacillus is shown by this method equally well in specimens hardened in spirit or chromic acid.

THE EFFECTS OF THREAD AND ROUND WORMS UPON CHILDREN.—M. Archambault recently made some clinical remarks at the Hospital des Infants Malades, Paris, on the effects produced by the *Oxyuris vermicularis* and the *Ascaris lumbricoides* in young children. He said one of the smallest and most curious worms, the presence of which causes so much trouble to young children, is undoubtedly in the so-called "thread-worm," the *Oxyuris vermicularis.* This helminthe has its abode in the lowest part of the rectum, just within the anus. It is the cause of a number of troubles, and of very severe itching, which is chiefly nocturnal, and therefore often characteristic of the presence of this particular worm. The itching is sometimes so severe as to make children cry; it prevents sleep, and so gives rise to extreme irritation, which may bring on convulsions. This worm is also met with occasionally in adults, and has, by the intolerable itching to which it gives rise, brought on a veritable condition of hypochondriacism. Another effect, in certain cases, is an inflammation of the rectal mucous membrane, accompanied with tenesmus and mucosanguinolent stools. In female children the worms may find their way into the vagina, and so bring on a vulvitis, more or less intense, with secondary effects which are most undesirable. Thus, although the presence of these minute worms is not in itself dangerous, yet the secondary consequences may be really grave. Their treatment is as follows: Administer an enema, for five or six consecutive evenings, of lime-water; if this is not sufficient, add—as Dr. West advises—a little perchloride of iron, and the worms will be almost certainly destroyed. Or a mercurial suppository may be tried if the enemata do not succeed. It is very desirable that the enema be properly administered, and in sufficient quantity; it should pass up as far as, or even beyond, the sigmoid flexure, so as to dislodge any worms which may have crept up beyond their usual site. As regards the lumbrici, it may be said that they are harmless (*assez innocents*); it is only when very numerous that their presence becomes dangerous. M. Archambault was once called to see some children who had just arrived from Brazil. and who had been taken ill with convulsions, vomiting, and diarrhœa. Finding in the stools a number of these round worms, he ordered calomel and santonin. An immense number of worms was passed—"it would be no exaggeration to say that the three children in three days passed a hatful of these helminthes." There are so many other anthelmintics than those just mentioned, that the physician's chief difficulty is the *embarras du choix*.—*Medical Times and Gazette*.

HÆMATEMESIS CAUSED BY VISCERAL SYPHILIS.—Rosenthal reports the following case, seen in Leyden's clinic during the winter of 1881-82.

Patient male, æt. thirty-nine, occupation butcher; formerly always healthy. Contracted a hard chancre in 1878, followed by indolent swelling of the glands. Inunctions took the place of internal medication on account of violent stomatitis that had set in. Patient complained of hoarseness and occasionally expectorated a bloody sputa for six months.

Two weeks before his application at the clinic he complained of pain and feeling of heaviness in the epigastric region. Two days before admission, after patient had performed some heavy labor, he was attacked by violent vomiting during the night. Ejected matter consisting of dark, coagulated blood; this was repeated four or five times in the course of two hours. During this time there was also three or four bloody evacuations from the bowels. Patient was very anæmic; mucus membrane presented a pale, yellowish appearance. Inspection of the mouth showed a number of cicatrices on the soft palate, uvula and pharynx. Besides the symptoms of coryza on the septum of the nose, there was a deep ulcer, with irregular, ragged edges, and about the size of a lentil. No ascites present. Liver somewhat enlarged, lower edge is distinctly felt on pulsation, and found to be perfectly smooth; slight sensitiveness. Spleen considerably enlarged; voice hoarse. Lungs presented nothing abnormal on percussion, but auscultation gave irregular breathing.

Diagnosis. Syphilis of the liver, causing congestion of the portal system, due possible to syphilitic cicatricial constrictions.

Anti-syphilitic treatment ordered in the form of inunctions, (20 per day) and in four weeks all the symptoms of syphilis had disappeared. During this period 52.0 grm. ung. ciner. had been used. At the urgent request of the patient he was discharged as cured, contrary to advice.

C. W. T.

TWO CASES OF SYPHILITIC STENOSIS OF THE PHARYNX.—The author reports two cases of a comparatively rare affection: the formation of a membranous band across the pharynx from one side to the other, near the root of the tongue, dividing the pharyngeal spaces into two parts. In both cases it seems as if the disease made its appearance without a knowledge of it to the patients; therefore, Sokolowski especially recommends a thorough laryngoscopic examination in all cases of syphilitic lues where there is difficulty in swallowing, even if there are no symptoms of hoarseness present. In both instances the membranes was coarse, hard, irregular and resistent. The larynx was somewhat affected, but the symptoms were especially marked during the act of deglutition. The following is a short history of the cases. 1. Female, æt. twenty-two, had been sick three years, buccal cavity full of scars, and cicatrices; membrane just above the larynx and œsophagus, leaving only a small triangular opening, so that structures beyond the membrane could not be seen. The membrane was divided and dilatation made by means of Schotten's bougies. Cure was complete; *eg.*, there was no difficulty experienced in breathing in during the act of swallowing. Epiglottis and the right arytenoid cartilage was somewhat thickened, but the vocal cords were not involved.

Case 2. Male æt. twenty-six; hereditary syphilis, gummata on different parts of the head. Soft palate totally destroyed, and large oval opening in the hard palate. Posterior pharangeal wall full of cicatrices.

False membrane took the place of the epiglottis, completely hiding upper structures. Small triangular opening in posterior part of the membrane permitting respiration, but causing some difficulty during deglutition. Patient was very much emaciated and died soon after of tubercle.

C. W. T.

COMPARATIVE ACTION OF THE BROMIDES.—MM. Chéron and Fouques, having experimented at some length with the three well-known bromides (of potassium, sodium, and ammonium), have reached the following conclusions: These salts act, in virtue of their bromide, as moderators of the reflex centres. The bromide of potassium joins to its sedative action on the nervous centres a depressing action on the muscular system; it is thus a neuro-muscular agent. The bromide of sodium has an action like that of bromide of potassium on the nervous centres, but does not affect the muscular system; it is thus simply a moderator of reflex action. The bromide of ammonium has, in virtue of its bromide, an action on the nervous system similar to that of the other two, while it is also, in virtue of its ammonia, and excitant and diffusible; it is thus at once a moderator of reflex action and a peripheral excitant.

Consequently, when it is desired to influence the reflex powers and the muscular system, preference should be given to the bromide of potassium; if, however, we wish to act only on the reflex centres, the bromide of sodium is indicated; finally, if, leaving the muscular system out of consideration, it is desired to act on the nervous centres, to restrain the circulation and to effect a diminution in blood pressure, the bromide of ammonium will most probably give the required result.—*Glasgow Medical Journal.*

Salicylate of Soda (1) in Tonsillitis, and (2) as a Local Application in Gout.—Edward Mackey, M.D., Brighton, contributes the following to the *British Medical Journal*:

1. A paper by Mr. Hormazdji, recently published in a contemporary, treats of a clinical point deserving, I think, more attention than it has yet received—I refer to the value of salicylates in tonsillitis. The good effect of these salts, when prescribed for that complaint, has been illustrated by the clinical records of Fowler, L. Browne, Hunt, and others, in the *Journal* of one or two years back; but is not yet so widely recognised as to be independent of further evidence. My personal experience is not large, but is based upon several very severe and acute cases in which ulceration had occurred before salicylate of soda had been administered. It was then given in ten-grain doses every two to four hours, and in each case I was struck, not only by the lessening of the pyrexia, but also by the relief credited by patients themselves to each dose of the remedy—much as one almost expects to hear of it in acute rheumatism. One surgeon, himself a sufferer, notes marked relief within twenty minutes (*Mid. Med. Miscel.*, No. 6).

Hormazdji recommends twenty-grain doses; and, having noted relief in fifty-seven cases of tonsillitis caused by cold and damp, concludes that such cases give the best results, and that, when the malady arises from bad air or drainage, it is less amenable. This seems reasonable, but is not exactly my experience. For instance, of a family of nine children living in a house too small for them, and defective as to drainage, five in succession got severe acute tonsillitis; several having a temperature over 103° F. and nocturnal delirium, and all going on to more or less ulceration. The earlier cases got a calomel purge, small frequent doses of aconite and potash-chlorate, sulphurous spray, a benzoin inhalation, and ice; later, iron; they were relieved within thirty-six hours, but all relapsed on the third day. It was only when the sixth child—a delicate one—was attacked, that I had become aware of this use of the salicylates, when I found him suffering with severe throat symptoms like the others, I ordered, after his purge, five grains of the soda salt every two hours in liquor ammoniæ citratis. The boy, who expected the same illness he had seen his brothers and sisters go through, expressed, with surprise, relief from the first few doses, was free from pain in twenty-four hours, had a very slight patch of ulceration, and no relapse. (The above prescription, which I gave this patient, should form a clear colorless solution, which agrees well, but, when dispensed by some chemists, I have known it turn brown, and cause irritation and vomiting; for this I have no satisfactory explanation). Since this note was written some half-dozen other cases of ulcerative tonsillitis have shown similar good results with the same remedy; of course, when actual suppuration (quinsy) has occurred, equal relief will not be expected.

2. N., a man nearly 70, with what he called "compressed gout," showed an inflamed and swollen great toe, and complained of characteristic burning pain and tension in it and in the whole foot. He had several attacks before, never so bad as this; and had no sleep for three nights; overworried lately, he had probably exceeded in sherry; he was thin, weakly, and subject to diarrhœa. I ordered a lotion containing salicylate, two drachms to eight ounces of water with one or two drachms of laudanum, to be applied warm on lint with oiled silk; also ten grains of the salt internally every four hours. The lotion arrived first, 9 p.m., and was applied at once; in ten minutes the pain was relieved, the patient went to sleep, and had a good night; the medicine was not commenced till next day. He kept in bed, as ordered, three days, and had no severe return; he went out too soon, and ten days after got a partial relapse, which yielded to the same remedy.

Another gentleman, also nearly 70, and long subject to irregular gouty attacks, got a sudden acute development of the malady in one finger and an elbow-joint, a slighter one in the big toe; for twenty-four hours, he objected to any local application, as too troublesome, and took iodide of potassium with magnesia, etc.; on the second day, however, he was glad to apply the salicylate lotion, and reported quick and marked relief from it. Since the date of these cases, similar ones have been recorded by other observers.

In a third case, of a young married lady with very marked gouty family history, the immediate cause of desiring advice was an eruption of lichen planus on one arm. A salicylate lotion, containing also a little prussic acid, suited this patient extremely well; though, in a more chronic case of the same kind, but with extensive systemic disturbance (as usually associated with this eruption) it proved of no more service than other remedies. Its specialty lies in relieving gouty and rheumatic joints, which it seems to do even better than the ordinary alkaline compounds.

Sensorial Localisation.—One of the most actively discussed questions in the physiology and pathology of the nervous system is that of the existence of certain cerebral sensorial centres. Some of our English as well as some German authors have described, under the name of sensorial aphasia or of word-blindness or word-deafness, a form of aphasia to which particular lesions and symptoms are ascribed. The patient, while almost completely preserving intelligence, is unable to utter, read, or write, does not understand the words which he hears, nor those which he pronounces, and is therefore not disturbed or annoyed by the fact that what he says does not correspond with what he is thinking or intending to say. General sensation, sight, and hearing are normal in so far as relates to the common sensorial centre. In examining the anatomical lesions of the cases, the convolution of Broca is found uninjured; there is only destruction of a region of the posterior zone of the left brain. The path of exit, the third left frontal convolution, is free from lesion; that which is affected, is the storehouse of commemorative images of written and spoken words.

A case of great interest, shown by M.M. d'Heilly and Chantemesse, and related by them at the Medical Society of the Paris Hospitals on July 28th, is one of the neatest and most striking examples which have been published of this form of cerebral disease in its bearing upon sensorial localisation. A young tuberculous female became suddenly aphasic; she could hardly comprehend anything which was said to her; she could neither read nor write, and only pronounced some incoherent words. Sight, hearing, motor power and general sensibility were well preserved. Her intelligence was almost completely preserved; she understood signs made to her; conducted herself correctly in feeding herself with solids and fluids; recognised a friend who came to see her, shook hands with him, and took part by smiles and changes of expression in the games which went on in the ward; she played cards, and was never mistaken either as to their color or value. At the post-mortem examination, there was found a thrombic clot in the fourth branch of the left Sylvian fissure, with softening of the cortical matter of the tributary territory, affecting the superior labium of the first temporo-sphenoidal convolution in its posterior half, extending over the lower half of the inferior parietal lobule, and over the anterior half of the gyrus. The limitation of the lesion, the marked and well-defined character of the symptoms, justify the record of this case as one highly illustrative of the series considered to indicate definite lesions as belonging to the condition of word-blindness or word-deafness, and in maintaining by pathological evidence the doctrine of sensorial localisation. — *British Medical Journal.*

Acute Primary Retro-Laryngeal Abscess. —Goix concludes an elaborate study on this subject as follows:

1. Acute primary retro-laryngeal abscess consists in an inflammation of the connective tissue in the retro-laryngeal space.

2. Its appearance is characterized by the simultaneous occurrence of fever, laryngeal pain, feebleness and hoarseness of voice, cough, dysphagia, and symptoms of laryngeal stenosis.

3. Normally, when moved from side to side, the posterior edges of the thyroid cartilage may be felt to glide over the vertebral column; this thyro-vertebral friction disappears in retro-pharyngeal space.

4. The gravity of this disease cannot be explained by the mere interference with respiration from œdema of the glottis; the inflammatory irritation of the various laryngeal nerves should be taken into consideration.

5. The best treatment seems to consist in the administration of large doses of tartar emetic and the application of several blisters. If tracheotomy is required by the urgency of the symptoms, the pus should be evacuated, even after this operation.—*Arch. Gén. Méd.*—*Medical News.*

Function of Spleen and Bone Marrow.—Dr. Theo. Korn (*Virchow's* 5 *Arch.*, lxxxvi, p. 406), examined the hæmatogenesis in pigeons, withdrawing from a series of animals, in intervals of five days, from five to seven grms. of blood; he then repeated the same experiment in animals the spleen of whom had been removed four weeks before. The normal power of resistence of pigeons against venesection was not diminished by the extirpation of the spleen. In the first series, Korn demonstrated, in every case, atrophy of the spleen. In both series the observation was made that the marrow of the bone became richer in blood, while a great part of its fat seemed to be absorbed and made use of for other purposes. While these experiments clearly show that the spleen, at least in birds, is of no importance for the regeneration of the blood, they demonstrate the fact that the marrow of the bones undoubtedly participates in the formation of this fluid, which is the more apparent in birds, as many of their bones do not contain any marrow at all.—*Medical and Surgical Reporter.*

The Micrococcus of Gonorrhœa.—Leistikow, in the *Berliner Klin. Wochenschrift*, speaks of some researches on this parasite, previously described by Neisser. He found it present in two hundred cases of urethritis in men. It is distinguishable from the other parasites causing infectious diseases, and is found in the interior of the pus globules which make up the discharge present in this disease. They are never found in other than gonorrhœal discharges. Their presence suffices to prove the specificity of a complication (*arthritis* or *ophthalmia*). Few in number during the early stages of the disease they become more and more in number as the disease advances. Their disappearance shows that the danger of contagion has disappeared. The specificity and individuality of the parasite seems proven by Leistikow. Its peculiarities being its form, its habitat and its abundance during the active stage of the disease. x.

Chronic Chloral Intoxication.—Warfringe describes the case of a man, thirty-three years of age, who, on account of the pain produced by sciatica, took as much as twenty-five to thirty grammes (ʒvi—ʒviiss) of chloral daily. Nothing else seemed to relieve the pain and he had long ago given up hypodermic injections of morphia. The patient was sent to the hospital as a case of spinal meningitis, but this diagnosis could not be upheld. He complained of muscular weakness, particularly of the legs, and also of a double sciatica for which he had taken chloral. The most peculiar symptom consisted of a great emaciation in spite of an exaggerated appetite. There was no fever or other symptom of disease of the spinal cord. The cure of the chloral habit and of the sciatica was brought about by means of arsenic, warm baths, electricity, an appropriate diet, and the gradual reduction in the quantity of chloral.—*Schmidt's Jahr.*, August, 1882. K.

SPECIFIC FOR SORE THROAT.—After a large number of observations, Dr. Robt. N. Hormazdji, of Cheltenham, has come to the conclusion, that in all acute cases of tonsillitis salicylate of sodium is a specific, while in chronic cases it seems to possess no effect whatever. He recommends about 15 grains of the remedy every hour, till the most urgent symptoms are relieved, when only half the dose is administered. At the same time he employs a gargle, consisting of about 10 grains of the salicylate of sodium, one ounce of glycerin and three ounces of water. He found the remedy especially specific in its effect in very acute and severe cases, as also in the angina of scarlatina, and of erysipelas.—*Medical and Surgical Reporter.*

SYPHILIS AND SKIN DISEASES.—The author gives the history of two cases of seols that were peculiar on account of their abnormal size and their localization. In both instances a peculiar eruption made its appearance five and seven months after primary infection. On the face there were a number of well defined, smooth, livid red patches, of about 3-4 ctm. in diameter. The center of the muscular presented a tendency to scale in the one case. On the body the exanthem was neither so general nor so well defined. Other symptoms indicating the specific nature of eruption were well marked and treatment instituted accordingly causes a rapid disappearance of the exanthem. C. W. T.

RHINITIS, CORYZA AND CATARRH.—Scheff, in his work, gives a clear view of the symptoms and etiology of catarrh. With regard to the latter he opposes the views of Friedrich in advocating that it is contagious. He denies individual disposition, and shows that the unmistakable tendency of some individuals to catarrh is due to the anatomical construction of their nasal fossæ. The anomalies may be caused by a continual abnormal pressure, misplacement of some of the grooves or sinures, preventing the normal flow of the secretions and favoring decomposition. This acts as a source of irritation to the mucus membrane. C. W. T.

COW-KOUMISS IN THE DIARRHŒA OF INFANTS.—Dr. Senitschenko, Kasan, reports (*Petersburg Med. Woch.*) that he has derived great benefit from the use of koumiss prepared daily from the milk of the cow. The infants were from three weeks to one year and nine months old, and suffered from dyspepsia, diarrhœa, or cholera infantum. He began with a teaspoonful every quarter of an hour, and after six hours increased this to a tablespoonful. The children soon became accustomed to it, and under its use the stools soon improved, and the frequent vomiting ceased, did not suffer from such constant thirst, while sleep became better.—*Medical Times and Gazette.*

An Anti-vaccination Society has been formed at Hartford, Conn. About a dozen persons constitute the organizing membership.

SURGERY.

FROM PROCEEDINGS OF IMPERIAL GERMAN CONGRESS OF SURGERY.—Paper by Herr Braun, of Heidelberg, entitled—

Contributions to the Study of Strumæ Maligna.—Based on the careful and accurate autopsies of 20 cases of neoplasm of the thyroid. These showed that not unfrequently the trachea and œsophagus are so completely surrounded by the new growth and embedded in it that only too easily wounds of the trachea or œsophagus may be inflicted during the attempt to remove these diseased structures. In a series of 72 accurately recorded cases, such an unfortunate occurrence actually took place 22 times. In reply to Herr Langenbeck the author stated that sarcoma and carcinoma had been observed in about equal proportions. Gussenbauer recommended early operation. Herr Langenbeck said that in most of the cases observed by him removal was quite impossible, owing to attachment to the great vessels, otherwise there would have been no difficulty.

Radical Cure of Hernia.—Herr Schwalbe (Madgeburg) followed with a paper on the above. His method consisted in the injection of alcohol into the neighborhood of the hernial aperture. He had had 34 cases within a recent period, and in every instance had succeeded in closing the aperture, so that a truss could be dispensed with. Herr Ranke (Groningen) has made use of the method described in over 100 cases, and had ascertained that by means of it a cicatrix could be produced at the hernial site and without danger. In recent cases and young children he had seen good results, but would hazard no opinion as to the ultimate issue. Herr Gussenbauer confessed that, according to his observations, the method was (1) absolutely safe, and (2) that within the space of six to eight weeks diminution in size of large hernial apertures could be brought about, so that intestine no longer protruded. The method was worthy of further trial.

The Transplantation of Muscle in Human Beings.—Herr Helferich (Munich) then read a paper on this subject, based on a case in which the whole of the biceps of a woman had been removed with the exception of a strip the thickness of a lead pencil, and replaced by a piece of muscle from a dog. Complete healing took place and after some months' use of electricity the power of movement lost previously to the operation was restored. Herr Gluck (Berlin) reported that his experiments in the transplantation of muscle had always given positive results.

Operation for Echinococci in the Abdominal Cavity. This paper was read by Herr Landau (Berlin.) He alluded to the fact that the subject had already been discussed on two previous occasions by the Congress, without, however, any definite decision thereupon. It seemed to him to be the ruling belief that the disease was an unattackable one, notwithstanding that treatment by operation had shown results that were exceedingly favorable. At the last Congress Volkmann's method of operation was generally recommended. There were, however, great drawbacks to this plan, and he (the speaker) had decided to return to a more simple mode of operation—a mode that had been first systematically practiced and recommended by Sanger (Groningen) and Lindemann, of Hanover. The plan followed and slightly modified by the speaker was as follows: After the cyst has been cut down upon and the peritoneum opened, the cyst being still unopened, the echinococcus is secured by vertical sutures placed in the angles of the wound. The threads are not tied, but simply held on the stretch by assistants. By this manœuvre the overflow of fluid is rendered impossible. The cyst, which now as a rule protrudes, is punctured by a Dieulafoy aspirator. It is then encised longitudinally, and emptied, the edges of the cyst are then completely everted and fastened by numerous sutures to the abdominal wall; the wound remains open and is drained. He remarked, in conclusion, that from four to five weeks after the operation a profuse secretion of bile usually took place, which, however, was of no pathological significance, and was simply synchronous with the exfoliation of the echinococcus sack, and the consequent freeing of the bile channels. Another and somewhat disagreeable occurrence incidental to these cases was the development of an intense garlicky odor, not dependent in any way on diffusion of intestinal gases. It was worthy of note that the point selected for operation should not be that which was most prominent, but that which was nearest the ribs. He then exhibited two cases that had been operated on by himself—one a girl of twelve, and another of eight years of age. In the latter two echinococci, one in the axillary and the other in the sternal line, which, however, were not in communication with each other, were removed by the one operation. The wounds closed in about fourteen days. Herr Kuester, of Berlin, in opposition to his own former views, had operated in the way described by Herr Landau, and had been fully satisfied with the results. He did not consider, however, that the fibrous cyst should be cast off by purulent granulations. If the course of events was aseptic, the discharge of bile was absent, which finally formed a firm cicatrix. Herr Thiersch also confirmed the statement of the previous speaker, that in aseptic cases the disagreeble odor was not present.

On Operations on the Bladder, with Special Reference to its Extirpation in Ectopia Vesicæ.—Herr Sonnenburg then read this paper, and exhibited a case that had been operated on. In the discussion that followed Herren Thiersch, Bilroth, and Langenbuch (Berlin) took part.

Fixation of Wandering Kidney by Operation.—Dr. E. Hahn (Berlin) then read this paper, and exhibited a patient. In the patient presented the left kidney had been fixed nine months and the right four, by the method published by the author, with the result that the patient could get about, which before, with her colossal movable kidney, was impossible. It was not a difficult matter to fix the kidney with certainty. When the covering was drawn out through the wound it could be fixed in the manner recommended by Simon. In the discussion that followed Herr Landau (Berlin) said that his experience led to the belief that operative treatment was not only impracticable, but positively injurious, for the reasons that, as the case exhibited showed, the kidneys would not be fixed in their normal position. Disturbance in the circulation of the organs would be set up, and the excretion of urine would be put on the stretch. Then the patient, if a female, might become pregnant. The connection between the kidneys and genital organs was not an important one, as post-mortem, for example, those of Virchow, had show. In prolapse of the uterus the kidneys and ureters were dragged upon, and if the kidneys did not follow the line of traction the ureters would be compressed, and hydronephrosis would be the result. Herr Huester had operated once with benefit to the patient. Herr Esmarch could relate a similar experience. In a case in which the wound had healed by granulation the complaint ceased. Herr Hahn replied. He did not operate till all other treatment, by bandage, etc., had failed.

A Case of Successful Resection of Stomach on Account of Gastric Ulcer.—Herr Rydigier (Culm) exhibitod the foregoing, with preparation. The operation was performed on the 21st of November, 1881, on account of an occluding ulcer of the stomach, in consequence of which enormous dilatation of the organ was produced. Every second day pyrexial disturbances occurred in consequence of retained decomposing food. The speaker held that the operation was far more frequently indicated for stenosing ulcus ventriculi than for carcinoma of the stomach.

In the discussion that followed Herr. E. Hahn (Berlin) thought that the condition of the colon and its contents appeared to have a more important influence over the operation than was generally supposed. In a case in which he had recently operated for dilatation in a patient sixty-three years of age, and in which the patient died on the eighth day, absolutely without any symptoms of fever or reaction, but with persistent fæcal vomiting, the cause appeared to lie in the loaded condition of the colon. Large quantities of fæces had been evacuated by enemata previous to the operation, and yet at the autopsy the colon was found to be loaded. Herr. v. Langenbeck had performed resection of the pylorus in a case with attached pancreas, but the patient died of collapse before the completion of the operation. Herr Billroth said he was very much surprised at the great number of resections of the pylorus that had been undertaken in so short a time. He himself had waited five years before meeting with a case that seemed suitable for the operation, and in this case the diagnosis was wrong. The tumor proved to be a lymphoma of the mesentery, and he simply closed the wound. With the very greatest care in the selection of cases, those suitable for resection would be but rarely met, and one should never be afraid to desist from proceeding with the operation if during its course the extirpation should seem unusually hazardous. He held as particularly dangerous the excision of the pancreas, but he did not believe that the contents of the intestines would have any influence on well-placed sutures. In every gastro- and enteroraphy the sutures should be so accurately adjusted that there could be no possibility of intestinal contents coming into contact with the wound. Silk, and not catgut, should be employed, and the lumen should not be too much encroached upon. But above all, he would warn them not to carry the resection too far. If the infiltration extended too far forwards the operation would be in vain, and it was for this reason that the number of cases suited for the operation was so very small. He held with Leube, that the non-cancerous strictures of the pylorus, as well as cases of dilatation, were much more suitable for resection; for if the disease were only moderately widely spread, the case would end fatally, as mechanical difficulties invariably cropped up. Herr Gussenbauer (Prague) mentioned a case of resection of the pylorus undertaken on account of a movable tumor in the neighborhood. The case ended fatally. He also was of opinion that the best indication for operation was a non-carcinomatous stricture.

Suture of the Bladder.—This paper was read by Herr Juillard (Geneva). Whilst removing an ovarian tumor, very firmly adherent to the bladder, the posterior vesical wall was rent for a space of 12 cm. (4¾ in.) and the edges of the wound gaped widely. There was not the slightest bleeding, a phenomenon that led to the supposition that the structure of the wall had undergone fatty degeneration from pressure of the tumor. Herr Juillard then united the edges of the wound by fifteen catgut sutures, 1 cm. apart. He took special care to leave the serous coverings in contact throughout. The result was extremely favorable. Herr Esmarch had met with a similar case in which he had closed the rent with silk, and inserted a retaining catheter. Result favorable. Herr Billroth related a case of extensive rupture of bladder in consequence of the firm attachment of an ovarian cyst. In the further course of the operation the intestine was torn. These accidents necessitated both resection of intestine and enterorraphy. No catheter was left in, but for the first three days the urine was withdrawn frequently. The result was favorable, the patient being well in three weeks.—*Medical Press.*

PULMONIC SURGERY.—Dr. Koch, of Dorpat, communicates (*Deutsche Med. Wochenschrift*, 1882, No. 32) the results of two cases in Leyden's clinic, in which he had operated for chronic putrid bronchitis, with bronchiectasis. The first case was that of a man, aged twenty-four, with the physical signs of contraction of the right lung, cavities in the right base, and catarrh of the right apex. The sputum indicated gangrene of the lung, and was unaffected by treatment. On June 26th, part of the right sixth rib was resected, and after it had been ascertained that the two layers of pleura were completely united, the thermo-cautery was gradually pushed through the lung to the mediastinum. It opened a cavity of the size of a child's fist, about three fingers' breadth from the surface of the lung. The sputum expectorated sank at once from 400 to 120 cubic centimetres daily. On June 30th, part of the eighth rib was resected and the thermo-cautery passed through the base of the lung, without, however, entering any considerable cavity. Exploratory puncture with a syringe showed a purulent collection in front of the vertebræ; and on July 11th this was laid open, between the eighth and ninth ribs, below and internal to the angle of the scapula. The condition of the patient at the date of publication (August 5th) was most satisfactory, although the expectoration had not quite ceased; and it was purposed to explore still further the base of the lung.

The second case was that of a woman, aged twenty-nine, brought into hospital with jaundice, and a putrid expectoration, amounting daily to between 800 and 1000 cubic centimetres. After a preliminary aspiration of the right thoracic cavity on July 15th, four inches of the sixth rib was resected; and, a hollow needle having been passed through the anterior axillary line, in the direction of the right auricle of the heart, the thermo-cautery was pushed in the same direction. Two inches from the surface of the lung it entered a cavity, about the size of the closed fist; and, on pushing it upward and backward from this cavity, as guided by exploratory puncture, it entered another cavity, of the size of a child's head, and containing one thousand cubic centimetres of putrid fluid. The cavities were washed out with thymol solution, and three thick drainage-tubes inserted. The patient collapsed after the operation but remained alive for a week; during which time the expectoration was completely absent, and post mortem the surfaces were found covered with healthy granulations. The cause of death was less the operation than a phlegmonous inflammation of the portal vein, a lobular bronchopneumonia of the base of the left lung from the presence of a foreign body, and a chronic septicæmia, which had existed for some time. The writer promises a further communication on the subject, in conjunction with Dr. Hiller, who is at present making extensive observations in Leyden's clinic. Meanwhile, he considers that operative interference is indicated in cases of single cavities, especially if near the surface, in cases of acute gangrene, and also in cases of foreign bodies not removable by the trachea, in putrid bronchitis, and in the rare cases of localized tuberculosis of the lung.—*British Medical Journal.*

OSTEOTOMY AND TARSOTOMY IN THE TREATMENT OF CONGENITAL CLUB FOOT.—At the meeting of the Académie de Médecine, held September 19, M. Jules Guerin read a paper on this subject, of which the following are the conclusions:

1. Tarsotomy, the ablation and resection of the tarsus to remedy club-foot, even when of the most serious character, is an operation which should be discarded as one of the most serious character, is an operation which should be discarded as one of the most unjustifiable abuses of surgery.

2. This method results in a dangerous and useless mutilation of the foot, and should always be supplanted by the more scientific methods of ten-

otomy, syndesmotomy, massage, and orthopædic apparatus.

3. Even in cases of inveterate club-foot in the adult this method is not preferable to attempts to overcome the deformity by appropriate apparatus. —*L' Union Médicale.*—*Medical News.*

Cæsarean Section. — A successful case of Cæsarean section is reported in the *Archiv für Gynæcologie*, xix., 3, by Dr. Leopold of Leipzig. The patient was a woman, twenty-nine years of age, who had already borne one child, extracted by cephalotripsy after perforation. She was 125 ctm. in height, and had a universally contracted rachitic pelvis of a flattened ace-of-hearts form. The conjugate diameter was 6 ctm. The operation was performed under antiseptic precautions. Previous to opening the uterus, the serous membrane was dissected off a longitudinal elliptical space, and turned back, after which a melon-like slice of uterus was removed. This procedure was the object of getting sufficient serous membrane to allow of its edges being turned down previous to the application of the sutures. At the end of the third week both mother and child were convalescent.—*Medical Press.*

OPHTHALMOLOGY AND OTOLOGY.

On the Transplantation of Skin En Masse in the Treatment of Ectropion and other Deformities of the Eyelids.—Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association in Worcester, August 1882. By Charles Bell Taylor, M.D., F.R.C.S., and published in the *British Medical Journal:*

Upwards of seven years ago (March 1875), I was operating upon a lady for ptosis. The defect was somewhat exaggerated; and, in order to remove it, I excised a piece of skin from the upper lid. I cannot give you the exact measurement of the portion removed; suffice that it was, as the sequel proved, a large piece—indeed, too large a piece. The bleeding that followed was rather in excess of what is usual in these cases; and, owing to this and some other accidental circumstance, at least twenty minutes elapsed before I commenced to stitch up the wound. I had no sooner, however, inserted a suture, than I found that I had done too much. It was clear that the patient would hardly be able to close the eye even with effort, and that during sleep it must remain partially open. What was to be done? No elaborate plastic operation, for various reasons, was possible just then. It would not do to leave the wound to granulate, or to bring the edges together in its present condition. I thought how stupid I had been to divide the pedicle before ascertaining the effect of sutures, and turned my eyes regretfully upon the piece of skin which was lying in the operating-tray, a shrivelled, cold, cerulean piece of dead flesh. Was it dead? I recalled that I once stopped excessive hemorrhage following tooth-extraction by replacing the tooth, which remained *in situ* for years; and I determined to put the piece of dead skin back. It was accordingly replaced, without any extraordinary precautions. The wound healed by the first intention, and the shrinkage which followed sufficed to cure the original defect.

I am ashamed to say that I was not aware at that time that Lefort, the great French surgeon, had demonstrated in 1870 that it was possible to transplant large pieces of skin from one part of the body to another without pedicle; and, owing to my want of information on the subject, I brought this case forward at the annual meeting of the Midland Branch of the British Medical Association held at Leicester, as an altogether new light on the subject of plastic surgery. The conclusions I drew from the case, in the paper then read, were the following:

1. It is possible to transplant large pieces of skin from one part of the body to another, and from one person to another, under favorable circumstances, without pedicle.

2. Such flaps shrink considerably—at least to one-half of their original dimensions.

3. The elastic, thin, silky, wrinkled tissues, such as the skin of the eyelids, the scrotum, and foreskin, are the best adapted for this purpose.

4. With this fine tissue, no preparation, such as scraping and planing of the raw under-surface of the flap, is necessary; and, lastly, in removing tissue to remedy such deformities as ptosis and ectropion, leave the flap attached by a pedicle until you have ascertained precisely the full effect of the operation you are performing.

I introduced a patient, on whom I had successfully operated very shortly after the case recorded, at the Leicester meeting; and the subject, about the same time, or earlier, for anything I know, was so ably handled by my friend, Dr. Wolfe, of Glasgow, that the operation now bears his name.

I have had a photograph taken of a case treated in this way: as you see, a bad case of ectropion occurring in a scrofulous subject, the result of extensive exfoliation of diseased bone. This child, who came from a distance, had been seen by other surgeons, and some attempt had been made to remedy the deformity; but the small portion of the upper lid which had escaped destruction was so firmly embedded in the diseased tissue, that it was evident that nothing but a most careful operation, with transplantation of new skin, necessarily from a distant region, would suffice; while it was clear that, unless something was done, that the eye, constantly open, congested, and perpetually exposed to external irritation, would be seriously damaged. It was impossible in this case to preserve a pedicle while transplanting from a distant region, as the patient was exceptionally timid and irritable. I therefore decided to transplant *en masse*, and selected for this purpose a piece of delicate skin from the inside of the arm. The upper lid was turned completely inside out, and I took advantage of this position to make a raw surface well inside the lashes; a similar raw surface was established on the opposing edge of the lower lid; what remained of the eyelid cut free from its abnormal attachment, and the two raw surfaces brought together and firmly attached by sutures deeply placed in the lids; the upper portion of skin, which was buried under the orbital ridge, was then carefully dissected out, and the raw surface between the two covered with the flap borrowed from the arm. The parts were saturated with a solution of boracic acid, and maintained *in situ* with a compress bandage. The lids adhered, thus establishing a permanent ankyloblepharon; and, with but a slight attempt at sloughing at the edge, the transplanted skin became firmly attached in its new situation. I maintained the ankyloblepharon for six months, when, finding that the new lid was firmly embedded in its new situation, I divided the attachments between the lids, and dismissed the case with the result shown in another photograph in my possession. The lashes are seen to be as perfect in the one eye as in the other—a most important point; and, altogether, the case may be considered a perfect success, exceptional no doubt, but not the less gratifying on that account.

I have another case, very similar to the preceding, now under treatment. In this case, the portion of skin, transplanted from another person, sloughed; but I have no doubt that I shall be able to fill up the raw surface from another source; in the meantime, the eyelids have grown together, and the lashes are preserved.

Now, although I am glad to be thus able to bear testimony to the success of Wolfe's operation in a certain small percentage of cases, and although it is clear this method may be adopted when the epidermic graft of Reverdin, or the mosaic of Wecker, would fail to supply the loss of substance, I am bound to confess that, the more experience I have of the operation, the more extraordinary and unaccountable does the brilliant success of my first replacement appear. I think my experience will be borne out by that of other surgeons, and may be summed up in a a few words: that, although you may succeed occasionally, as I have done, the flaps slough, as a rule, or, if they do not slough, some portion of the epidermis exfoliates, leaving a shred merely that in actual contact with the raw surface—alone vital. If we could take skin from the upper eyelid, the scrotum, or foreskin, we might be more successful. Under any circumstances, I should always, when possible, maintain a pedicle, if only for twenty-four or forty-eight hours, or until the new tissue exhibited some signs of vital connection with the parts beneath. It has been objected to this latter proposition, that the scar in the neighborhood of the diseased parts is an additional deformity, and that the twisting of the pedicle leaves an unsightly ridge; but, as is shown in a photograph of a very old case, in which I manufactured a new eyelid from the temple after excision for tumor, there is not the slightest scar or ridge to be seen; and I have here a patient on whom a very extensive symblepharon has been cured by transplantation of the skin of the upper lid on to the lower surface of the eyeball itself with a pedicle, which was maintained intact for some days. In this case, there was no conjunctiva to transplant; and, although it is only three weeks old, there is no scar and no ridge. I demonstrated this operation at the Clinical Society of London in 1874. I believe I am the only surgeon, either at home or abroad, who has ever practised such a method of treatment in cases of symblepharon; and I have much pleasure in commending it your notice.

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Cincinnati, November 4th, 1882.

The Week.

HYSTERIA OR BORBORIGMUS, WHICH?—In a discussion at the last meeting of the Indiana State Medical Society, a member was so audacious as to intimate that "a certain course of treatment advocated by him was opposed by the New York authorities, but that he did not believe it was absolutely incumbent on them to follow their (the New Yorkers) opinions; that all the wisdom of the profession was not concentrated in New York; and that the affectation of superiority of the New Yorkers was absurd."

The reading of these presumptious remarks touched the gifted editor of the *American Journal of Obstetrics* (October supplement). In fact his condition demands the consideration of the New York Obstetrical Society. From this long range we are unable to make a differential diagnosis of his condition between hysteria and borborigmus. In case it is the former a course of dilute syrup of asafœtida will probably act kindly; if the latter trouble is diagnosticated, an infusion of cataria would prove beneficial. Other New Yorkers may feel similarly affected and lest it become epidemic the New York Obstetrical Society should adopt prophylactic measures and possibly they may find it necessary to isolate and quarantine those suffering from the malady.

BETHESDA SPRINGS.—Within the past few years discoveries of springs of natural mineral waters have been made in different parts of this country, some of which possess almost marvelous therapeutic properties. Notably this is the case in regard to the Bethesda Spring of Waukesha, Wisconsin. In some cases of Bright's disease that have come under our observation within the past ten years, its use has been of marked benefit, not only mitigating the sufferings of patients, but undoubtedly prolonging life for months and even years.

REMONSTRANCE OF AN ASYLUM SUPERINTENDENT.—On the suggestion of a doctor that those who associate with the insane transmit the disorder of their offspring.

Dear Doctor, I beg you—I pray you—don't tell us
That you really believe in an insane bacillus!
That in mingling with patients we're breathing an air
Full of germs of mad phrensy and hopeless despair;
That, although our own minds may seem perfectly sane,
Parasitical growths will forever remain
In our system, infecting the blood and the brain;
So that, if, by good luck, we ourselves don't go mad,
The child will inherit the germs of its dad!

Already, in truth, are our troubles enough,
Without being told this nonsensical stuff;
In peril from blows, in peril from flurry,
In peril from fire, in peril from worry,
In peril from Lunacy Board and Committee;
Are these not sufficient, dear sir, in all pity?
Forbear then to talk, I beseech you, until I
Have time to examine these wretched bacilli.
But if you insist on such growths diabolic,
Pray send me a bottle of mental carbolic.

British Med. Journal.

THE *London Lancet's* geography needs revision. In the last number received (Oct. 14) it is stated that "The accounts of the spread of yellow fever in Texas are not reassuring. Though the epidemic is declining at Brownsville, Pensacola is suffering terribly from the scourge." Fancy our declaring that "The accounts of the spread of scarlet fever in Kent are not reassuring. Though the epidemic is declining at Dover, Oban is suffering terribly from the scourge."

PHYSICIAN'S VISITING LIST.—Messrs. P. Blakiston, Son & Co., have issued their annual visiting list for 1883. This is the veteran in a class of books that are an absolute necessity to medical practitioners.

IN Providence, Rhode Island, with a population of 104,000, not a single death has occurred from small-pox since 1875. The reason is given as "general and careful vaccination."—*Ex.*

Blackmore says: "The common lay mind hates the lawyer, as the lay body objects to the doctor, and the soul is timorous of the parson".

A VERY neat and complete Little Giant French Battery sent out on thirty days trial by C. E. Jones & Bro., Cincinnati. Send for circular.

Bibliography.

SPEECH AND ITS DEFECTS: Considered Physiologically, Pathologically, Historically and Remedially.[1]

There is scarcely a neighborhood in the land that does not contain one or more persons afflicted with some impediment of speech, although the malady is of such common occurrence, physicians have given the subject little or no attention, while it has been the observation of nearly every practitioner that common ignorance of the subject which prevails among those having the care of children is productive of great distress and often serious results to the innocent sufferers. The author of this little monograph himself a sufferer from speech defect has done a most valuable work in methodically investigating the causes and remedies for a disorder from which over 200,000 persons suffer in the United States alone. Beginning with phonation, and a classification of the vocal organs, with their uses, he next in order takes up articulation or the method by which voice sounds are connected into the elements of speech, which naturally brings him to a consideration of the defects of speech, with a proper classification and most successful mode of treatment.

We cannot but wish a copy of this little book were not only placed in the hands of every physician, but of every teacher having the care and instruction of children committed to their hands.

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[1] By Samuel C. L. Potter, M.A., M.D Lea Prize Thesis of Jefferson Medical College. Published by Permission of the Faculty. Philadelphia: P. Blakiston, Son & Co., 1882. For sale by Robert Clarke & Co. Price $1.00.

Original Communications.

A CASE OF HEMIPLEGIA WITH REMARKS ON SECONDARY DEGENERATION OF THE PYRAMIDAL TRACTS.

[Read before the Ohio State Medical Society.]

By PHILIP ZENNER, M. D., Cincinnati, Ohio.

The case of which I am about to speak is a very common one. It is one of ordinary hemiplegia. But some interesting features about it, as well as considerations growing out of them, will, I trust, be not altogether unprofitable.

The history of the case is as follows: R.G., fifty years of age, fifteen years ago, had an attack of right hemiplegia, leaving a degree of weakness in the right arm and leg. Two months ago he had a similar attack. In both instances there was doubtless a hemorrhage in the neighborhood of the corpus striatum of the opposite side (the usual seat of disease in cases of hemiplegia.)

We will now proceed with the examination of one case. There is still weakness in the right arm and leg, the muscles of the face have almost regained their original tonus. There is one point of interest to which I wish to call your attention, though I cannot dwell upon it here. That is a degree of weakness, though less marked than on the other side, of the leg, on the non-paralyzed side. Brown-Séquard called attention to the occasional occurrence of this condition, that is, conditions of paraplegia in some cases of hemiplegia, at a meeting of the Société de Biologie in January of this year. I merely mention this here; an attempted explanation would take me beyond the limits of this paper.

We will now examine the tendon reflexes. When I tap the patellar tendon, there is a sudden and extensive forward movement of the foot. If I tap the ham-strings or tendons of other muscles there is a sudden contraction of the corresponding muscles. If I take hold of the tip of the foot and make a sudden dorsal flexion, there ensues a series of movements, rythmical in character, consisting of dorsal flexions of the foot, which continue as long as I continue my pressure against the foot. This is called the foot clonus and is the same in character as the other tendon reflexes. The sudden flexing of the foot is equivalent to a tap on the tendo-achilles, and the continuance of the contraction is due to a repetition of the same cause.

Let us pause for a moment in the examination of our case and consider what is the nature of these tendon reflexes, what their clinical significance.

Much time has been spent in trying to explain these motor phenomena. But I do not wish to enter into a discussion of any theories on the subject. Practically they all agree in this, that they are due either immediately or mediately to reflex action, that the pathway of that action is on the one side through the afferent nerves and posterior spinal roots, on the other through the anterior spinal roots and motor nerves, and that the center of the reflex action is in the gray matter of the cord, probably in the ganglion cells of the anterior cornua, and further, for the inferior extremities, the center is in the lumbar portion of the cord.

Now as to their clinical significance. In health the patellar tendon reflex is usually the only one of these phenomena that can be elicited, and even that is so slight that a light tap on the patellar tendon, which in our case causes a violent contraction of the quadriceps femoris, would scarcely produce a perceptible movement.

As to the diagnostic value of the exaggeration of these reflexes, suffice it to say that it is found in the large and rather comprehensive group of spastic paralyses. Our case belongs to a subclass of this group. It is one of secondary degeneration of the pyramidal tracts.

Of one of the motor phenomena, above referred to, I wish to speak more fully, that is the foot clonus. It is the most important of the reflexes in this connection because it is very seldom found in health. Gowers believes that it is always a sign of disease, but in this I cannot agree with him, as I have found the phenomena where there was no indication of nervous disease. But how infrequent it is in health is shown by the fact that Berger in examining 14,000 healthy persons found it only three times. You see then how valuable its presence may be as a sign of certain pathological changes.

But to recur to our case. On examining the arms by tapping upon the tendons of the different muscles we can everywhere elicit the tendon reflexes. In healthy persons tendon reflexes in the superior extremities can seldom be found. Now with the mention of the fact that there is no rigidity of the muscles on the paralyzed side, we will dismiss farther consideration of this patient and enter more fully into the discussion of the pathological condition of the case illustrated.

Tuerck was the first to recognize degeneration of the spinal cord following cerebral lesions. This degeneration he very distinctly located. It is found in two parts. One embraces a narrow band of white fibres on the inner side of the anterior column, bordering the anterior fissure. This is always on the same side as the cerebral lesion, and usually does not extend beyond the upper dorsal region of the cord. The second embraces a broader band of white fibres in the posterior part of the lateral column. It is on the side of the cord opposite to that of the intracranial lesion, and usually extends the whole length of the cord. These two bands together form what is called the pyramidal tract, and are known to contain the nerve fibres which go to the voluntary muscles.[1]

Late contractions of paralyzed muscles in cases of incurable hemiplegia have long been observed, but Bouchard was first to recognize that this rigidity occurs in cases of secondary degeneration of the pyramidal tracts.

What are then the clinical manifestations of degeneration of the pyramidal tracts? They are principally late rigidity of paralyzed muscles and exaggerated tendon reflexes. The rigidity may become manifest within the first month after the focal lesion, but usually several months intervene before it appears. The exaggerated tendon reflexes appear as a rule much earlier, and this fact sometimes lends them a great prognostic value. Charcot very clearly brings out this point in his lectures on this subject. He puts it: You are called to a case of hemiplegia. There has been, as is usual in such cases, a hemorrhage in the region of the corpus striatum. The patient is completely paralysed on one side. After the acute symptoms have passed off and the life is no longer despaired of, the question is put to you, will the patient entirely recover or is the paralysis durable? The answer of this question will depend largely upon whether the internal capsule has been injured or not. If injured in a certain part there will be subsequent degeneration of the pyramidal tract and durable paralysis. If the internal capsule remains intact the patient will probably recover, at least in a large part, the use of his limbs. You wait a few weeks. You examine the tendon reflexes. They are exaggerated. Then you can say it is highly probable that the internal capsule has been injured, degeneration of the pyramidal tract has ensued, and the paralysis is incurable.

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[1] See Figs. I., II., III., IV.

It is so in our case. There are exaggerated tendon reflexes. There is as yet no muscular rigidity, but we know this will later appear. The case is incurable and it is important the patient should know it. He is in destitute circumstances. He wishes to know whether, if he can manage to support himself for a while, he will later be able to earn a living. No. He will then seek some home for incurables.

How are the symptoms, muscular rigidity and heightened tendon reflexes, produced. Various theories have been offered, but that of Charcot is so ingenious and so plausible that I will alone mention the same.

It is probable that the nerve fibres of the pyramidal tracts terminate in the ganglion cells of the anterior cornua, and their degeneration therefore secondarily causes dynamic changes in these cells, a state of irritation or exaltation of function. These cells are the seat of reflex action. There are consequently exalted reflexes. Muscular tonus is the expression of one mode of spinal reflex activity. With the super-excitability of the center this tonus is heightened and permanent. In other words, there is muscular rigidity. The exaggerated tendon reflexes can be explained in the same manner.

We will dismiss further consideration of the clinical manifestations of secondary degenerations, and enter more fully into the subject in its anatomical and physiological bearings.

First, let us clearly understand the physiological cause of secondary degeneration of nervous tracts.

Waller, an English physiologist, pointed out more than thirty years ago that section of mixed nerves was followed by degeneration of the peripheral ends of the nerves, that section of the posterior roots of the spinal nerves was followed by a degeneration of the central part of the nerve which could be traced to Burdach's column. It became apparent that the tracts degenerate because cut off from their trophic centers, of which that of the anterior roots was to be sought in the ganglion cells of the anterior cornua, that of the posterior roots in the ganglia of these roots. The principle has since been formulated as the Wallerian law that nervous tracts degenerate when separated from their nervous centers. This law throws a flood of light on the whole subject of secondary degenerations. It enables us to understand why degeneration of the columns of Goll is usually found in locomotor ataxy, why degeneration of the pyramidal tracts follows certain intra-cranial lesions. We wish now to consider whether it will enable us to determine the exact trophic centers of these tracts, and thus solve one of the most interesting problems in cerebral physiology.

For longer than a decade of years the effort has been made through experimental investigation to determine the localisation of cerebral function. Even before that time Meynert, from his anatomical studies, believed himself justified in locating the motor functions in the anterior cerebral convolutions; and Hughlings-Jackson, from his clinical and pathological studies, came to a similar conclusion.

Later the experiments of Fritsch and Hitzig, Ferrier, Nothnagel and many others demonstrated that irritation or removal of certain definite regions of the cortex would be followed by certain definite motor phenomena. Certain convolutions, the anterior and posterior central, and paracentral lobule, have therefore received the name of motor or psycho-motor centres. And yet the results of the study in this direction are so far by no means conclusive.

As regards the anatomy the nerve fibres in the internal capsule and centrum ovale are so intimately and confusedly blended that it is impossible to trace any of them with any certainty. In pathological cases we seldom find that exact circumscription of diseased areas which would admit absolute conclusions in reference to localisation. Even the results of experiment are not conclusive, Apart from the fact that many still deny the local significance, experimenters claim for their experiments, and that results and sometimes conflicting, even when these results are alike experimenters do not agree in their interpretations. Some, as Fritsch and Hitzig, Nothnagel and others, believe that the so-called motor centres are really sensory centres and only indirectly affect motion, for instance, that they are the seat of muscular sense (Nothnagel). Others, as Ferrier, believe the same to be really motor centres.

Can the study of secondary degeneration of the pyramidal tracts throw any light on this question? The anatomical positions of these tracts for the greater part of their extent, in the cord, in the medulla and pons, in the crura cerebri and internal capsule, can be easily traced.[1] So far the study of development as introduced by Flechsig, and the study of degenerations of these tracts entirely corroborate purely anatomical investigations. But, as before mentioned, beyond the internal capsule anatomical investigation cannot trace this bundle. Flechsig, by his method, has been enabled to trace it thus far, but (though he believes it has its origin in the so-called motor centres) he could trace it no further.

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[1] See figures.

Where is the origin of the pyramidal tract? Is it in the central convolutions and are these therefore its trophic centers? If this question could be answered affirmatively it would at once settle the physiological point under consideration. We know these tracts contain the voluntary nerve fibres. If these fibres have their origin in the central convolutions, these must contain motor centres. How can this be determined? Again we must refer to the Wallerian law. If the gray matters of this part be their trophic centres, then separation from it must be followed by their degeneration.

There is some evidence toward the establishment of such a fact. Vulpian and Ferrier have experimentally evoked degeneration of these tracts through destruction of portions of the cortex of central convolutions. Charcot and Pitres, Lepine, Poullain have reported cases in which cortical lesions were followed by degeneration of the pyramidal tracts. But it must be acknowledged that the evidence is not all favorable. Binswanger recently reported cases of general paralysis, in which, with extensive disease of the cortex of central convolutions, no degeneration of the pyramidal tracts could be detected.

It must be acknowledged that appropriate cases for such study are rare, and observations, to be reliable, most difficult and tedious. It may be that hitherto not all conditions have been complied with that render conclusions absolute. At least it must be granted that the evidence on this point is not yet conclusive. We can therefore as yet give but a qualified answer to the above question. Probably the trophic centers of the pyramidal tracts are contained in the cortex of the central convolutions. But even this probability adds to the weight of evidence given by anatomy, pathology and experiment, that the central convolutions contain motor centers. And it promises even more than this. The results are so far not conclusive, because the facts are few, the observations perhaps not always exact. But from the nature of the proof, if the proper data could be obtained, they would bring with them a certainty in their conclusions, such as purely anatomical, pathological or experimental investigations could never attain. All that is lacking is the requisite material and the careful observation thereof.

The problem, then, like so many others in this department, still waits its definite solution. That solution demands of the worker patience, application and critical exactitude of observation; of the seeker after truth who relies upon the researches of others to watch and wait.

The following figures are taken from drawings and anatomical sections with which the anatomical part of the paper, the course of the pyramidal tracts, was demonstrated. Figs. I., II., III., IV., are taken from drawings, and are partly diagramatic; Figs. V., VI., VII., are taken from anatomical sections, and are natural size.

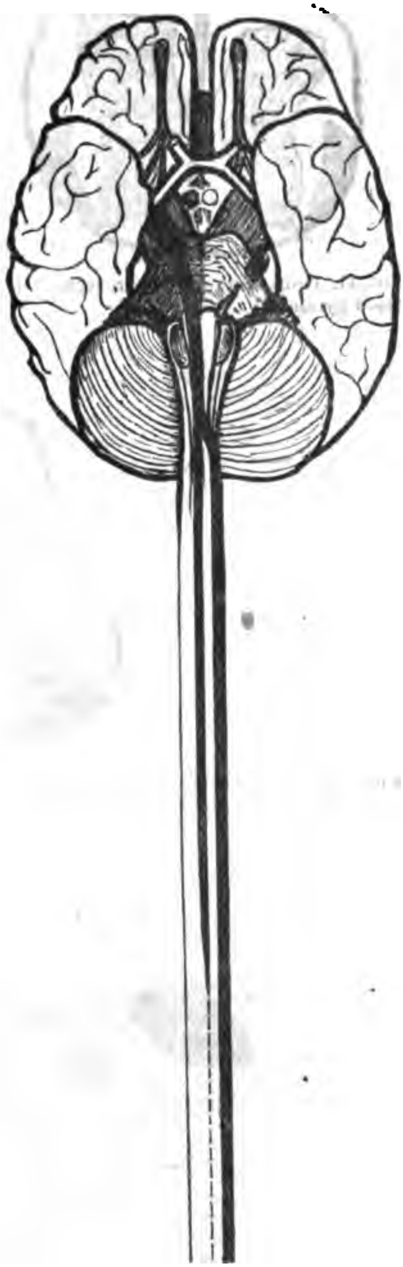

FIG. I. The course of one pyramidal tract is delineated in black. The direct pyramidal fasciculus extends to the dorsal region. The crossed pyramidal fasciculus extends the whole length of the cord, and in the lower part of the medulla crosses over to the other side. Thence the two are seen united, passing through the medulla, pons and crus cerebri.

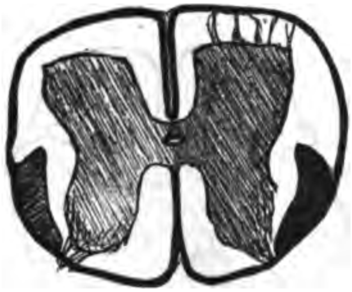

FIG. II. Cross section, lumbar region of cord. Crossed pyramidal fasciculus.

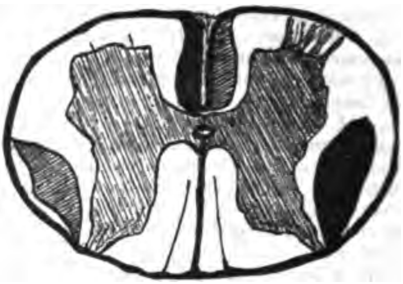

FIG. III. Cross section, cervical region of cord. Direct and crossed pyramidal fasciculi.

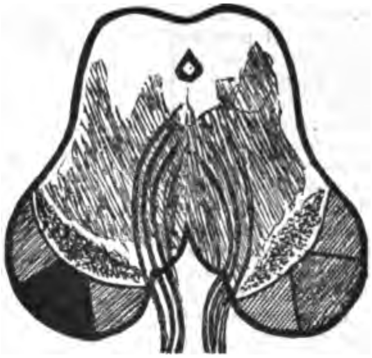

FIG. IV. Cross section through crura cerebri. Pyramidal fasciculi united in one bundle.

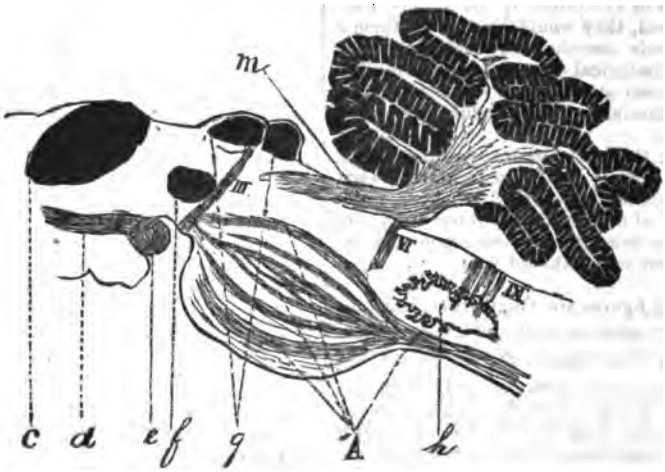

FIG. V. Sagittal section of basilar portions of brain. A., Pyramidal tract passing from the crus through the pons and medulla.

c., thalamus opticus; d., anterior crus of the fornix; e., corpus albicans; ., red nucleus; g., corpus quadrigemina; h., olivary body; m., crus cerebelli ad cerebrum; III., VI., IX., nerves.

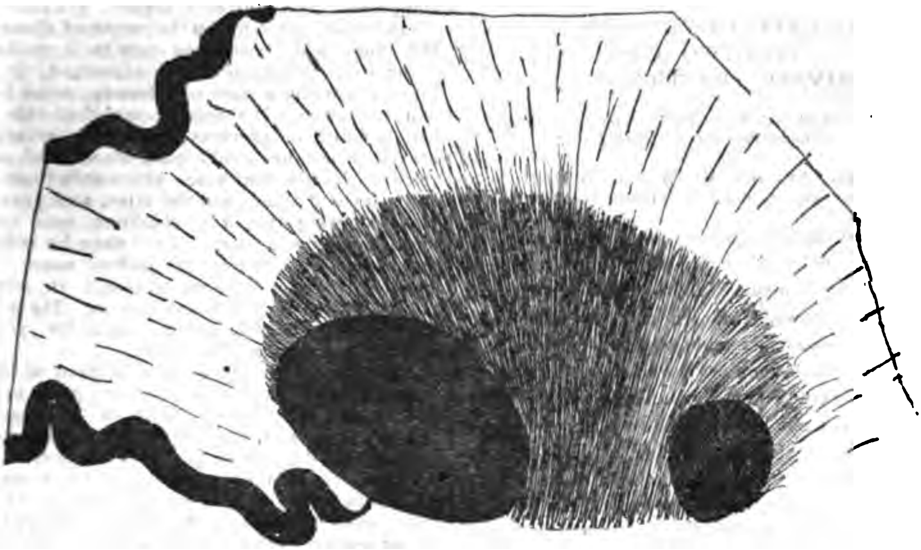

FIG. VI., Sagittal section of brain at some distance from median line, showing fibres between the corpus striatum and external geniculate body, which come from the neighborhood of the cortex and extend to the base (beginning of .crus cerebri.) These are fibres of the internal capsule, most of them pertaining to the pyramidal tract.

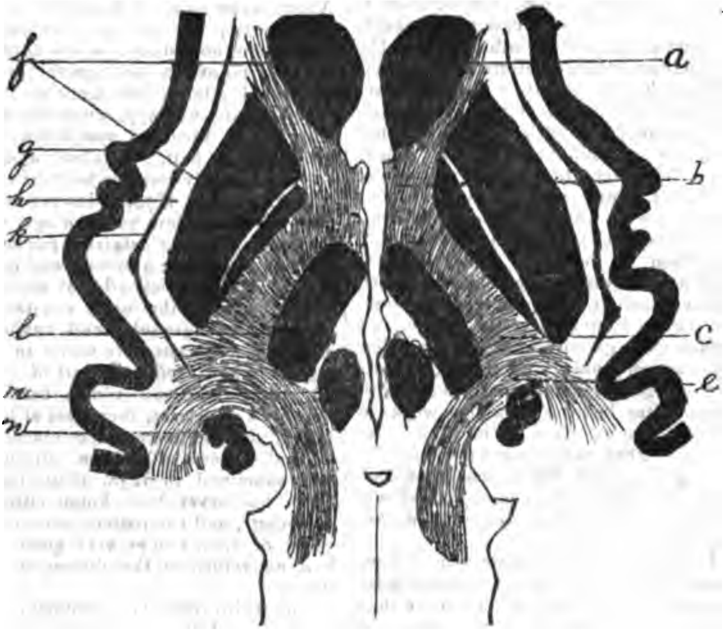

FIG. VII. Section through the basilar portion of the brain, in an almost horizontal direction. Between the dotted lines, *a* and *e*, the internal capsule. Between *b* and *c* that part of the internal capsule which, according to Flechsig and Charcot, contains the continuation of the pyramidal tract and whose injury is followed by incurable hemiplegia. Between *c* and *e* the part of internal capsule containing sensory fibres.

f., corpus striatum; g, cortex (Isle of Reil); h., external capsule; k., claustrum; l., thalamus opticus; m., red nucleus; n., external geniculate body.

CLINICAL OBSERVATIONS ON ALBUMINURIA, BASED UPON A STUDY OF SIXTY-TWO CASES SEEN IN PRIVATE PRACTICE.

Read before the College of Physicians and Surgeons, Philadelphia, Pa., October 4, 1882,

By Arthur V. Meigs, M.D..
Physician to the Pennsylvania Hospital.

During the last eight or nine years it has been my habit to keep a record of the examinations of urine I have made. That record now contains notes of between sixteen and seventeen hundred examinations, and a study of it recalls to my mind, with more or less distinctness, the histories of sixty-two persons suffering with albuminuria.[1] In a number of instances I have been able to follow cases for a series of years; from this circumstance in particular, the number of years the patients were under observation, I have been enabled to satisfy myself of some clinical facts, particularly in reference to the diagnosis and prognosis in this complaint, which I hope may be worthy of your attention.

That which has most impressed me is the impossibility of making a prognosis, with any degree of exactitude, in most cases of Bright's disease. Of course, in the plainer ones, the decision is easy; if asked an opinion in a case with a large, or even moderate amount of albumen in the urine, with increasing heart failure, and evident decline of strength and vitality, with headaches and the peculiar white complexion of the disease, it is easy to prophecy that such a person will not live, and the prophecy, nine times in ten, comes true; if called, however, to decide questions of the future for a young man of thirty-two or three, previously well, but for some weeks complaining of headaches, malaise, and boils, and then examination of the urine shows a slight amount of albumen, granular and hyaline casts, and abundance of rather small oxalates, the question of the future is not so easily decided. I have seen such cases go on pretty well for a few months, then suddenly have convulsions, and die in a few days. Again, persons presenting identical symptoms, after being sick a few weeks or months, entirely recover. To my mind it is impossible, in the present state of our knowledge, to anticipate the future, and the patient should always have the benefit of the doubt, and should be shown the brighter rather than the darker side of the picture.

I know of three persons in whose urine I have found albumen and tube casts, accompanied with all the other signs of Bright's disease more than eight years ago, who are yet alive. One is a lawyer in easy circumstances, who was taken sick in January, 1874, when he was fifty-six years of age, with what appeared to be a bad cold, but he had extreme dyspnœa and excessive restlessness and nervousness, although he is usually very self-composed. The dyspnœa seemed greater than could be accounted for by the extent of disease of the lungs, which amounted only to a moderate bronchitis; the urine being examined, it was found to contain a trace of albumen, some blood and tube-casts. It should be said that this man had suffered in previous years with attacks of gravel, when he would pass blood and small calculi. Nearly four years afterwards there was still a trace of albumen in the urine, and granular casts, showing that the condition was by no means merely temporary. Ever since he is liable to severe cold, and always suffers more than common with oppression, although it usually takes the form of a common coryza. He is now sixty-four years old, and an unusally young-looking, active man of his years.

In contrast with this case, a woman of about sixty was seized in the night, having gone to bed apparently in her usual health, with an attack of oppression, and what her physician called congestion of the lungs, so violent that it was thought she would die at once; she, however, rallied by morning. An examination of the urine, made a few days afterwards, revealed the presence of a slight trace of albumen and casts. Four months afterwards there was still a trace of albumen in the urine, and granular and fatty casts, although she was up and about as usual, being merely very weak, having no apparently urgent renal symptoms. At a later examination, the trace of albumen was still found, but no casts. About seven months from the first discovery of the disease, she had another violent attack of oppression, and died in a few hours. Now what are the points to distinguish these two cases? One died after a few months' illness, and the other, having had apparently the same complaint and almost identical symptoms, is, after eight years and a half, still alive, and more, apparently, unusually well for his time of life.

In December, 1874, a lawyer in full practice, then about fifty-four years of age, was taken with an attack of acute catarrhal pneumonia, and was also found to have albumen and tube-casts in the urine. He was sick all that winter and the following spring, the urine constantly containing albumen and granular and hyaline casts. The albumen and casts were found in the urine during 1875 and 1876, and part of 1877. On May 2d, 1877, about two and a half years from the onset of the disease, there was at last no albumen found, and the microscope revealed nothing abnormal. Since that time, although the urine was examined in 1878, 1880, 1881, and 1882, there has never been found either albumen or tube-casts, and the patient, now a man sixty-five years of age, enjoys very good health, having had no return of the disease in more than five years.

The third case is a woman, whose father, brother, and two sisters have died of the same disease. She has had a trace of albumen and hyaline and granular casts in her urine since March, 1874, when she was about thirty-one years of age. I have records of this condition in 1874, 1876, 1879, 1880, 1881, and 1882. In February last she caught cold, and seemed for some time upon the verge of a severe renal attack, having coryza, so that her nose was almost entirely stopped, and there were bronchial rales heard in the chest, but an amount of dyspnœa, seemingly out of all proportion to the extent of the disease, that could be detected by physical exploration; the albumen in the urine also increased very much in quantity. In some weeks, however, she recovered, and this summer seems in her usual health.

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[1] Many of these cases occurred in the practice of my father, Dr. J. Forsyth Meigs, but a large majority of them I saw from time to time myself.

The father of this patient had a severe attack of hepatic colic, and passed several gall-stones in 1877, but afterwards he continued in pretty fair health for some time. On May 9th, 1879, a trace of albumen was found in the urine; this continued to be present at succeeding examinations, but no tube-casts were found at this time, or afterwards, although they were carefully sought for, and about December, 1880, eighteen months from the original discovery of his disease, he succumbed to an attack of uræmic convulsions, being seventy years of age. A son and two daughters of this man died of the same disease some years before. The son, after having had dropsy, lived for several years in tolerable comfort, until a severe cold proved fatal. With the history of this son, and one of the daughters, I am not familiar, but the third one I saw, and she died in convulsions. The condition of this person before her final illness, which lasted only a few days, was in no way different from that of her sister, who is still living, and has had the disease for nearly nine years, and the attack which the surviving one had last March was exactly like those in which I have frequently seen other people die.

I maintain, therefore, that with our present knowledge it is impossible, in double cases, to prognosticate what the result will be, and that for the patient and his family, as well as for the credit of our profession, we should be very guarded in our prognosis. The presence of albumen and tube-casts in the urine, even when found for so long a time as two years continually, is not, as shown by one of the histories I have detailed, a reason why we should necessarily give a fatal prognosis, and this is particularly the case when the patient is a person past middle life. In the face of such authorities as Beale and Grainger Stewart, many practitioners think the microscopists can better judge, (by examining the urine,) of the stage and form of Bright's disease they have to deal with than they themselves can. Grainger Stewart is emphatic upon the subject. On page 271 of the American edition of his work on "Bright's Disease," he says:

"Some authors attach great importance to the tube casts. They are of undoubted value in establishing the existence of Bright's disease, considered generically, but they afford comparatively little assistance in the differential diagnosis of the different forms. Any form of tube-cast may occur in any form of the disease, and at almost any stage. Indeed, all the leading varieties may occur simultaneously in one case."

Beale says, (Kidney Diseases, Urinary Deposits, and Calculous Disorders): "Dr. Basham thinks he can judge of the stage of Bright's disease by the character of the urinary sediment. I wish I could agree with him in this conclusion. The more carefully the matter is investigated the more convinced am I that it is unsafe in many cases to attempt to draw interferences as to the stage of the disease from the character of the urinary sediment only. Nothing but a careful consideration of every point connected with the case will enable us to arrive at a general conclusion concerning the state of the disease. . . .

Dr. Basham says: 'The most untractable and hopeless form of *morbus Brightii* is that represented by the presence of the fatty or oily cast.' This statement requires some qualification, for although it is quite true that some of these cases are terribly and rapidly fatal, it must be admitted that some live for twenty years or more, and die at last of other disorders." With regard to the presence of oily casts in the urine, and it is upon their discovery that microscopists found their gravest prognosis, Dr. George Johnson says (Lectures on Bright's Disease, New York): "The appearance of oily casts and cells excites less alarm now than it formerly did. It indicates that in certain parts of the kidney the secreting cells and inflammatory exudations are undergoing fatty transformation; but I have seen many cases of complete recovery after oily casts and cells in great numbers had disappeared in the urine continuously for many weeks."

A very common symptom of renal disease, and one upon which there is not much stress laid in the majority of books upon the subject, is dyspnœa. Whenever a patient is found suffering with dyspnœa, and particularly if there is great nervousness, and loss of self-control, and anxiety, with no other fully sufficient cause for its existence, suspicion of renal disease should be aroused, and the urine examined, even if there are no other symptoms whatever, pointing toward a lesion of the kidney. These attacks of dyspnœa frequently come on with great suddenness in persons who have not considered themselves sick, and such attacks are often quite rapidly fatal. This condition has been described as renal asthma, but I believe it much more common than is usually supposed. Another symptom of Bright's disease, which I have frequently noticed, and have never heard described, is coryza, of such a character that it gives rise to very much greater distress than any ordinary cold in the head, with this there is not much discharge from the nose, but the patient complains that he can get little or no air, except through the mouth, this being accompanied with excessive oppression, much more than the condition would seem to warrant. This symptom was first called to my attention by my father, Dr. J. Forsyth Meigs, in a case we saw together about nine years ago.

The suddenness of the onset, or perhaps it would be more correct to say, of the discovery of the existence of this disease, is often very great. In one instance, I knew of a young man, previously supposed healthy, seized with a convulsion while sitting at the supper table, after he had finished his day's labor as a wagon driver; this was followed by others, and the case ended fatally in a few days. In a second case, I was called upon by a young woman to explain a swelling of the vulva, with which she was suffering; examination of the urine revealed the existence of a large amount of albumen; this continued for some time, but after prolonged use of iron, her condition improved, and she had apparently fair health, until about two years later she became pregnant, and died within a few days after the birth of her child. In a third case, a man, fifty-four years old, was seized in the night with epistaxis, a thing he had not had since he was a boy, examination of the urine revealed the cause, and about six weeks later, he was found one morning, insensible in the bath-tub; examination showed that he had right hemiplegia and he died in three days; a vessel in the brain had ruptured, presumably from the same degeneration, which six weeks earlier had caused the nose bleed. On the other hand, the insidious nature of this disease, and of its onset, is a matter of such common report, that I will not weary you with any cases illustrative of this fact.

This existence of oxaluria, or of uric acid lithiasis, is a prolific source of mischief to the kidney. The deposit of oxalates, or uric acid in the kidney, and its passage outwards, occurs most frequently in persons who are great eaters, living an inert life, and taking but little exercise. Such people are common among the rich in large cities, and I have seldom failed to find tube-casts in the urine of any one who passed gravel for any length of time, whether oxalates, or uric acid, even if the calculi were microscopic in size, and this, commonly before any albumen was to be found. Later, if there is any considerable amount of gravel passed, albumen and blood will be found in the urine. If the attacks of gravel occur often, they are apt, at last, to be followed by Bright's disease, directly caused, probably, by the mechanical irritation of the lining membrane of the kidney, by the sharp edges of the minute calculi passing through them.

It cannot be proved by statistics, and yet I think there is strong ground for believing, that the proportion of deaths, caused by affections of the kidney, is greatly on the increase. The tendency of modern life seems to be such, that a larger number of deaths are caused by degenerative processes, and less by acute disorders. In former times, children were less delicately reared, and a larger proportion of the frailer ones, probably died from exposure, and want of care; now, beginning at childhood, and continuing up to old age, we are much more careful to avoid exposure, and are more self-indulgent, at least as far as our bodies are concerned. Who, in modern times, except the professional athletes, would undertake the physical labors of the Emperor Charles V. of Germany, of whom Motley says, that he was able to tell, at a time when all journeys were on horseback, or by boat, "of his nine expeditions into Germany, six to Spain, seven to Italy, four to France, ten to the Netherlands, two to England, as many to Africa, and of his eleven voyages by sea!" Nowadays, the majority of city men are in their places of business all day, and take but little exercise, eating as much, and as rich food, as in former times, and drinking not a little withal. The natural and necessary consequence follows, that after years of this kind of life, the excretory organs degenerate; first the kidney, which is the common sewer of the body, and, like the heart, has to do continual work, from the hour of birth until the hour of death. It is a common thing, in modern life, to see a man naturally robust and gifted with a large appetite, become more inert as years go by, when he will gradually give up his active exercise, until finally he takes none; still the eating and drinking go on, and he becomes fat and sluggish; finally he looses health, and then, examination shows that degeneration is beginning in the kidney. I could instance several cases of the kind but my space will not allow me.

The drift of my paper has been to try to establish, that we should, in all ordinary cases of albuminuria, be very guarded in our prognosis, except when it is self-evident that the case must be rapidly fatal. I have now under observations, fifteen persons, seventeen, if I count two who have albuminuria alternating, or parallel with, diabetes mellitus, who have been suffering with this complaint for a greater or less length of time. With three of them, the disease began nearly nine years ago, and they either have it now, or have entirely recovered from it, after more than two years continued duration; yet in regard to no one of them, do I feel able, even in my own mind to guess, much less to formulate an opinion, as to how much longer they may live. There are absolutely no data, if such cases are considered in the light of the experience of the sixty-two I shall mention, upon which to found a positive prognosis.

Another observation I have made, is in regard to the deaths of very old people. We are all agreed I presume, that when a very old person dies, and we report the death as one of old age, it is because we are unable to put the finger upon the exact part of the old and worn out machinery, that at last refuses to work, and thereby, causes all the rest of the mechanisim to stop. This direct cause, if sought for, will frequently be found in the kidney. To examine the urine is not always a thing that strikes us, particularly when abosolutely no symptoms appear to point toward disease. I have seen a number of instances in which old people seemed to be fading out, as they often do, yet have felt entirely unable to explain to myself any direct cause for the failure, until the urine was examined, when there was found albumen, with granular and hyaline casts, and sometimes a few blood corpuscles. A careful inquiry would perhaps reveal the fact, that the amount of urine passed was very small, all this without any other symptom to point toward kidney disease; at the same time, the failure of the patient being very gentle and gradual; or else, as not infrequently has happened, senile delirium existed, either violent or mild in type, followed at last by death.

In the whole sixty-two cases, which I will now summarize collectively, there have occurred twenty-six deaths, thirty-four are, to my knowledge, still living, some in better and some in worse health, and of two, I have lost sight.

Five were cases of ordinary acute desquamative nephritis, with the occurrence of one death, and four recoveries. In one instance, a child, there were two attacks, two years apart, the first being unaccounted for, the second following scarlet fever; the second case occurred after scarlet fever; the third after diphtheria; the fourth was in a young man apparently healthy previously, and now in good health, his attack lasted only a short time; the fifth and fatal case was in a boy of about fifteen years of age, and came on while he was at boarding school, the onset being insidious, and the disease progressing from bad to worse, until death occurred.

Four cases seemed to be caused by the passing of gravel, principally oxalates. These people are still all living, although they have had albumen and casts present in the urine, on and off, for varying lengths of time; two of them for six years past, one for seven years, and the fourth has had two attacks of nephritic colic, about a year apart: on each occasion, albumen and granular casts, uric acid, and blood corpuscles were found in the urine.

Twenty-two cases I class as of ordinary Bright's disease, there being probably contracted kidney in the majority of instances, and of them, fourteen are dead. I made no post-mortem examination in any of these cases (seventeen of them) the onset was insidious, there being no illness to mark the beginning of the disease; in one the patient was seized with a convulsion at the supper-table, having been supposed previously to be in good health; in a second, there was a violent attack of congestion of the lungs, with terrible dyspnœa during the night, the patient, a woman, having gone to bed thinking herself in good health; in a third, there was dyspnœa and congestion of the lungs occurring suddenly; in a fourth the condition of the kidneys was discovered concurrently with an attack of catarrhal pneumonia; a fifth was a man who had had attacks of nephritic colic. He had a violent attack of congestion of the lungs, and bronchitis and dyspnœa, and was found to have albumen and casts in the urine, which condition continued, on and off, for four years; he is now in apparently good health, although the first attack was nearly nine years ago. Of these twenty-two cases, two were in one family, one soon dying, and one of the other, I have lost sight; two in another family, the father, son, and three daughters. The father and mother of this family had ten living children, five reaching adult life, one died of consumption, and the other three, and the father, of Bright's disease, the surviving daughter has had the disease for nearly nine years. In another family there were three cases, all women; one died, having had uræmic convulsions, and the other two still live, both having had the disease for about three years. A brother has now cancer of the rectum. The mother is still alive, and although seventy-four, enjoys good health. The father died at quite an advanced age, but I do not know of what disease.

The next twenty-two cases I must classify as unaccountable; eighteen of them occurred in persons over sixty years of age, and the other four were well on in life; one was over ninety, three over eighty, and two over seventy years of age. Of these people only five are dead, and of the five fatal cases, one was the man over ninety, two were over eighty, a fourth was seventy-seven, and the fifth sixty-seven.

The next four cases were of people advanced in life, and they died of general break-down, having in three instances concurrent disease of the heart and kidneys with implication of the lungs, and the fourth had renal and brain disease.

In two instances there has been albuminuria with diabetes mellitus; in one sugar was discovered in the urine six, and in the other four years ago. Since then there has been sometimes sugar, and at others albumen; at times both at once in the urine of these two women. In neither instance have tube-casts ever been found. I mention these two cases in a paper upon albuminuria, because both have frequently had albumen in the urine, and I confess myself unable to explain the phenomenon, the quite frequent presence of albumen in the urine, without tube-casts, or any other sign of renal disease, and yet I can hardly believe the albumen to be merely due to cystitis, for if that were so, it should be constantly present.

In one instance, I have followed for four years the history of a man who drinks to excess. At the beginning of, and for a time before, his attacks of delirium tremens, while he is consuming alcohol freely, he often has bloody urine, which will contain tube-casts of all the varieties at different times, fatty, hyaline, and granular. When he ceases his consumption of alcohol, as he has quite frequently done for two or three months at a time, the urine becomes normal, as far as chemical tests and microscopists examinations will reveal its condition. In the light of this case, how can we believe that the abuse of alcohol does not produce its renal degeneration? Is not this man sure to die of Bright's disease, if he continues his indulgence in alcohol?

Another case was a man over fifty years of age, who was seized with rheumatism; he progressed badly, and was much more sick than the amount of rheumatism would seem to warrant, and at last, after about three weeks, died; having obstructions of the bowel and inflammation of the kidneys, as shown by the presence of albumen and tube-casts in the urine; also hydrothorax, and extreme stupor, which seemed uræmic. This man had had an attack of influenza about three or four weeks previous to his fatal illness. Can there be any connection between the severe influenza, and the rheumatism, and renal inflammation and obstruction of the bowel, of which this patient died?

The last case I will mention was a boy, who died very suddenly of congestion of the lungs, probably the first stage of pneumonia. A trace of albumen and granular casts were found in his urine, which was obtained a short time before death. This boy was about sixteen years of age, and did not seem much sick on the afternoon of one day, being up and dressed, the next morning dying, in a state of maniacal delirium, with his lungs extremely congested. There was, unfortunately, no post-mortem examination made. This case would seem one in which the pulmonary affection was primary, and yet it might be that he had a latent contracting kidney.

There has been much said of later years about kidney disease without the presence of tube-casts in the urine, and of the presence of casts without albumen. I may say that I have frequently found tube-casts in the urine when the most careful chemical examination failed to detect any albumen, and *vice versa*, have failed to find any casts at all, when the event proved the existence of renal diseases.

The subject of treatment I have not even mentioned in my paper, although much might be said about it, because I have already trespassed too long upon your time.

In conclusion, I will briefly recapitulate the points which it has been my endeavor in this paper to prove.

First, that in no ordinary, uncomplicated case of Bright's disease, should a prognosis of speedy death, or even of incurable disease, be given, for I have related cases in which the disease was chronic, lasting more than two years, and which ended in complete recovery, and others in which the person affected has lived nine years.

Second, that dyspnœa, usually taking the form of renal asthma, is much more common than is usually supposed, and when properly appreciated, is a valuable diagnostic sign of the disease; also that severe coryza is a complication or accompaniment, and has a diagnostic value.

Third, that Bright's disease, as a cause of death, is on the increase.

Fourth, that it is a very common cause of the deaths of old people, probably being the direct cause in many deaths reported as of old age.

Fifth, that the passage of gravel, even when microscopic in size, but particularly if large enough to cause nephritic colic, is a prolific cause of the disease.

Sixth, that the occurrence of tube-casts in the urine, without, or in advance of, the presence of albumen, is very common, and *vice versa*, persons may die of Bright's disease, and the most careful examination fail to show any tube-casts, although there may be albumen constantly present in the urine.

Seventh, that the abuse of alcohol is certainly a cause of kidney disease, as proved by the case I have related, in which it has, again and again, caused hemorrhage from the kidney, with the temporary presence of albumen and tube-casts in the urine, disappearing again with the cessation of its consumption.

UNINTENTIONALLY OMITTED. — The proper credit to the *Medical and Surgical Reporter* of a most excellent article on "The Use of Tobacco by Boys," which appeared in our issue of October 21, was unintentionally omitted. It is a rule of this office to uniformly give proper credit in making abstracts of matter for republication; rarely there is an oversight, and always to our regret. The *Reporter* will accept our apology.

ERRATA.—In the treatment of chancroid (see article on "The Odor of Iodoform" in last week's issue), after using an escharotic, Dr. S. E. Earp suggests the following prescription:

℞	Pulv. Iodoform,	ʒi.
	Ol. Eucalypti,	ʒi.
	Bismuthi Subnit.,	ʒss.
	Zinci Oxidi.	℥ss.
	Ung. Petrolei.,	℥i.

M. ft. Unguentum. Sig. Apply locally to parts three or four times per day.

Clinical Lectures.

CLINICAL LECTURE DELIVERED IN THE GOOD SAMARITAN HOSPITAL BY PROF. W. W. SEELY.

[Reported by DR. W. H. WENNING.]

MULTIPLE TUMORS OF THE ORBIT.

Gentlemen: The patient before you now was operated on by me, as you will remember, last Sunday. The case is of special interest because the tumor was not single but consisted of a number of growths. As shown by a digital examination, its situation at the upper and inner angle of the orbit was not fixed, but movable, demonstrating that it was not a bony growth. Another smaller tumor was found at the upper and outer angle of the orbit. An incision about one inch in length was made at the inner angle, closely following the ordinary curve of the lid, a little below the brow, so as not to have a scar left after cicatrization. After cutting down upon it the tumor seemed to recede, but, by dissecting it out with the finger and the handle of the scalpel, I was enabled to get around and underneath it and lift it out. It was chiefly attached to the periosteum as shown by the slight roughness of bone. After the larger tumor was removed other smaller growths, almost like plates, thin but hard, were found which were entirely removed by the finger after the incision had been continued towards the external angle of the orbit. In this manner two or three more tumors, amounting to six in all, one very large and the rest smaller, were removed. It was expected that considerable inflammation would result. Consequently on the second day (Monday) the swelling increased considerably towards evening, extending to the left temporal region to the size of about half of my fist. The next day, however, the swelling subsided and to-day, the fourth day, you see that it is diminished still more. Several stitches have been removed to see if there was much suppuration. This amounts to but very little, as is seen when firm pressure is made towards the outer angle where a pledget of drainage cotton is inserted. Certainly there is no suppuration in the orbit. When the patient complained of great pain on Monday evening, the temperature being 102°, he was given ten grains of quinia with one-fourth grain of morphia. This morning, about eleven o'clock, he again complained of pain when the same doses were given him. He now says that he feels very well. As you observe, he is able to move his eyeball in every direction and besides the redness due to a chemosis of the conjunctiva, which does not amount to anything, his eye is in a fair condition. He declares that he can see very well. It is really surprising that there is so little soreness. As I said before, the growths were almost entirely removed with the fingers. This is preferable to the use of the knife, which should only be used for the first incision. It takes a little more time but is safer. The character of the growths has not yet been determined, as they are now being prepared for section for microscopical examination.

Though, as yet, no untoward symptoms have arisen in this case, the prognosis is usually not favorable. There may yet be a vast amount of trouble and besides the loss of sight death may even result from the extension of the inflammation to the brain or recurrence of the growths. We will anxiously await further developments and for this purpose the patient will be shown from time to time.

CATARACT.

The old gentleman before you now presents several practical points. He is sixty-seven years of age and, as you see, has a cataract of the left eye. He tells us that he was operated on for the same affection twelve years ago in Birmingham, England. His age was then about fifty-five years, a time of life when senile cataract may begin to form. This case presents a peculiar complication. Some years before the first cataract this patient was injured by a chip of iron entering the eye, but, as the man declares, his eye nevertheless remained perfectly clear. It is probable, therefore, that the injury had nothing to do with the formation of the cataract. After the operation there was evidently much suppuration, which left a white protruding cicatrix, allowing the transmission of only a limited quantity of light. As the right eye is now also beginning to get a cataract the patient is only able to move about without doing any work.

This case illustrates the fact that as a rule cataract forms in one eye first and often many years before the other. It is, indeed, very rare that both eyes become thus affected at the same time and to the same degree, although I have at present a private case under treatment which showed the occurrence of this disease in both eyes simultaneously.

The next question that arises is what must we do to give this man relief. As you see he is able to move about when his pupil is sufficiently dilated. Consequently as long as he is able to do that we confine ourselves simply to keeping the pupil dilated.

Possibly a certain amount of vision may be restored in the left eye by an operation, but this is doubtful on account of the great opacity of the cornea, even over its clearest part. It often becomes a question what to do where one eye is already full cataractous the other only slightly. It would probably be better to wait till the good eye becomes bad then make an operation on the bad eye. Some individuals, however, have such a dread of becoming blind that they insist on an operation whilst one eye is perfectly clear. I have accommodated such persons a few times and curiously enough all the cases that I operated on so early have been successful. As a rule then we do not operate on one eye until the patient becomes so blind as to become very much dissatisfied.

GRANULATIONS.

I had intended showing you to-day three different cases of granulations of the lids, illustrating three different stages of this disease, first, the disease in its incipiency, the acute stage; secondly, a state where the granulations were gone and a certain amount of relapsing pannus left; and thirdly, what we may call the degenerative stage, that is, a destruction of the conjunctiva and entire absence of any secretion. I am only able to present to you this case, where there is no secretion from the conjunctiva; consequently the last stage of the stage. The cornea is always hazy. You see that the tears come mostly in drops over the cornea. The cornea is frequently covered with a heavy opacity. If I should throw on this eye the artificial light you would be surprised at the amount of opacity. This patient has had all sorts of operations performed on his eyes. You see that the iris, in consequence of an inflammation, has degenerated and the pupil is bound down. I tried to make an iridectomy, but on attempting to grasp the iris it was so delicate and atrophied that it broke off on account of the great amount of lymph present. The opening which I then made again closed and the operation proved a failure. His eyelashes have also been cut off, except a few that still remain and scratch the cornea. He has had an operation performed for entropion and also had the outer commissure divided. You will notice that there are bridles of cicatricial tissue between the lids and ball. With all this, however, he has not had one annoying symptom, that is any special overflow of tears. The puncta are not dislocated but normal in each eye. You will remember that I have frequently called your attention to the position of the puncta in the troubles of the lid and yet you see that in this patient there is no dislocation. Now, what is to be done with this case? He sees so little that it is almost impossible for him to get about. There is no question but that he ought to have a large new pupil, probably from above, but that operation will prove exceedingly difficult on account of the total synechia posterior. I propose some day to make an incision through the cornea to see how much iris can be removed. If not much I will forcibly pull out the layer of lymph. If the lens should be opaque, or becoming so, I may also remove it. The case is one demanding some radical operation.

Granulations are generally described as acute and chronic; but probably all granulations are chronic, so that the acute form is only a complicating catarrhal condition engrafted on it. This acute inflammation has been cultivated by several eminent oculists, especially by DeWecker. He dwelt on this maintaining of a certain amount of inflammation as being salutary, as long as sixteen years ago and described the salutary influence of this acute inflammation. It is now known that a purulent inflammation is quite sufficient in itself to destroy the granulations by absorption. This fact suggested the idea of inoculating the conjunctiva for the relief of pannus and ulcerations of the cornea. If you refer to this week's issue of the Cincinnati LANCET AND CLINIC you will find an article translated from DeWecker by me, in which you will notice the suggestion of inoculating a material, consisting of the infusion of the seeds of a plant (jequirity) growing in South America, to excite artificial purulent conjunctivitis. It is claimed that its use is not attended with that severe degree of inflammation following the inoculation with gonorrhœal pus, as formerly practiced. However, there is always a great risk of losing the cornea by ulceration. It ought therefore not to be resorted to except where the cornea is covered with pannus. It is always a dangerous process. Fortunately cases of extreme pannus are not near so frequent now as formerly, just as we now seldom come across cases of argyrosis of the conjunctiva as formerly.

At the next lecture I will show you other cases and then describe to you the method of treating each.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

[Reported by T. R. COFFMAN, M.D.]

POTTS' DISEASE. — HAMMOCK SUSPENSION. — ABSCESS OF FEMUR.—TREPHINING.

I have two cases of bone disease to discuss with you to-day. The patients are both adults and both farmers; their surroundings have been good, one comes from the highlands of Virginia, the other from near the "divide" in Ohio, the elevation which separates the waters of the Ohio from those of the lakes, ordinarily healthy regions. The bones affected are of the major class, the femur and the vertebra. In the latter we have softening which has led to deformity, in the former we have an abscess within the lower extremity.

The end in view, the arrest of destructive action and the restoration of the bones must be sought upon different plans. In the femur we must employ direct means, reach the matter at once, evacuate it and institute drainage. The suffering vertebræ we can only relieve by indirection, by removing from them the pressure of a super-incumbent weight. The trephine for the femur, the Plaster-jacket for the vertebræ.

In "Potts' Disease" the whole of the body of the vertebra is involved in the disease, much of the earthy portion is absorbed and the bone daily grows less and less able to bear the weight above. After a time this softening is supplemented by a destructive inflammation in which the intervertebral cartilages share.

The abscess of the femur is somewhat irregular in its history. This young man, eleven years ago, when quite a boy, was seized with a sub-acute arthritis of the knee, from this periarticular inflammation the periosteum became involved and for several years he was afflicted with local points of superficial caries. He remained in this condition, with a stiffened joint and openings here and there on the femur, for several years. A short time before he entered this house, last spring, evidences of a more deep-seated disease of the femur were manifest. A dull, heavy, aching, throbbing pain just above the knee converted a condition of inconvenience into one of great suffering, of absolute disability.

CASE I. POTTS' DISEASE.

There can be no doubt but that Sayre's jacket is the best of all appliances for antero-posterior curvatre of the spine—"Potts' Disease." He suspends the patient during its adjustment.

My neighbor, an accomplished young surgeon, Prof. N. P. Dandridge, after his return from Europe, introduced Davy's plan of applying the jacket by placing the patient prone upon, and suspending him by means of a hammock.

Prof. Sayre suspends his patient by strap under the arms, this, especially in adults, I have found to be painful and not always safe. I have seen two persons faint while suspended. The aspect was that of extreme danger.

The hammock which I use to-day can be bought for a trifle, it is such as children use for swinging. You may, however, improvise one from muslin or drilling. It must be made of sufficient strength to support the weight of the body and support it safely.

The patient before you is an adult, about middle life, in his history there is no evidence of traumatic influence. A sensation of weakness and pain attracted his attention to his back, an inspection showed a slight projection in the upper part of the dorsal region, this has increased until now you see marked deformity, a stoop in the shoulder and an arched spine; every day this curvature is progressing; in addition to this deformity, resultant from it, is a paresis of the lower extremities, an advancing paralysis. This must be arrested or this man will soon be a helpless cripple. How can this be accomplished? Can it be done by the ordinary spinal apparatus, with crutches under the arms and the base of support at the hips, resting on the crests of the innominata? A moment's inspection will show you that that here certainly would be impracticable. the body is too much deformed already to render such a plan even possible. The plaster encasement offers most promise.

In spinal curvature, antero-posterior, Potts' Disease, can we hope to reduce the deformity, straighten the spine, reduce the angle before we apply the support? This is doubtful. I have long believed that we should be well satisfied to hold the deformity at the point where we find it, to lock it at that point, to prevent an advance. If we can do this we will have accomplished much. Nature will then, in cases where the angle is not great, soon compensate for the deformity. The softening in the diseased bones and intervertebral cartilages goes on slowly, the muscles and ligaments and the articulating processes, the disease being confined to the bodies of the vertebra, all accommodate themselves to the new condition to the progressing curve, hence we need hardly expect by suspension, by the weight of the body, that all these will yield, that this curvature, the angle will be overcome. Upon the subject of angle correction we have doubtless been led into error by the apparent change in the line of the back during suspension. When a patient is suspended by the arm-pit suspenders, the upper part of the body is thrown backwards and the same change occurs in the lower section of the vertebral column. Take a cast of the spine when the patient is recumbent or sitting up and again when in the above position and a marked difference will be manifest in the lead ribbon. Will not the variation be caused by the change in the trunk already spoken of rather than in any yielding of the diseased but locked vertebræ? The effect upon the angle, if any, will be slight. If, however, we can relieve the suffering bones from the weight of the body above them, a part of the trunk, the shoulders and the head, then the disease may subside and anchylosis, true anchylosis occur, solidity will take the place of limited motion.

When these cases are not arrested what takes place? The softened bones and cartilages break down, suppuration follows with many attendant ills. The pus dissects its way downwards until it appears about the hips, usually in the form of a psoas abscess. Sometimes it is not arrested in the pelvic region, but points below upon the thighs or even lower. Death may long be delayed, but it comes at last, preceded always by great suffering.

This was the history of almost every case of antero-posterior curvature previous to the introduction of Sayre's solid jacket. Now and then, after great deformities, there would be a spontaneous arrest—a fixed curvature. The "hunchbacks" are illustrations of this form of termination.

What is the promise in this case? Not flattering! Why? The higher the curvature, in other words, as the curvature leaves the centre of the dorsal region, our ability to arrest the disease grows less. The reason for this is apparent. It is difficult to adjust a support which will sustain that portion of the body above the affected part. I may say that in the upper part of the dorsal and lower part of the cervical region I am not sure that I have ever benefitted a patient. I have tried the "Jury-mast" of Sayre, so beautiful in argument but so difficult to practice, failure has marked all my efforts with it. The "Jury-mast" is something like a crane-strap surrounding the head with the base attached to a plaster jacket. Patients find it not only inconvenient but impossible to wear.

In this patient you find the curvature high up, above the middle dorsal vetebræ, at least involving the vertebræ beginning with the third. You will recognize at once the difficulty of adjusting the jacket so as to give support above this point. The solid encasement may relieve by giving quiet and rest to the yielding bones and cartilages.

I place the hammock on a table, place him upon it, adjust it well, fix the dinner pad, and then with the pulleys raise him up. Now the saturated rollers are applied, first horizontally and then to give support and prevent the jacket from breaking, throw them around in the shape of the figure 8.

This extended position, I am satisfied, makes as much impression on the curvature as suspension. It is safe and much more comfortable.

CASE II. ABSCESS OF FEMUR.—TREPHINING.

Trephining long bones belongs to this century, even before 1820 it had scarcely been attempted, deposits of pus, abscesses within the bones of the extremities were allowed to work their way slowly to the surface, entailing great suffering and often loss of the limb.

When this patient came into the Good Samaritan he still had evidence of caries at several points upon the surface of the femur, but the deep, dull, aching pain near the condyles led to the suspicion of an abscess in the lower extremity of the bone. The trephine was used and a suppurating cavity found, the spongy structure was badly damaged, the result of inflammatory action, pus and small necrotic masses were abundant. A carious surface upon the anterior face of the bone led to the point for planting the trephine.

After several months but little repair has taken place. At the time of the operation, it was not deemed safe to make a direct counter opening on account of the situation of the great popliteal vessels, but from the present aspect it would have been wise—as by attention to his general health, cleansing frequently, the destructive action has not been arrested—to have made an opening at the side through which the debris could have escaped, but as the reparative power in bone is so great I expected relief by one outlet, although indirect, this is generally sufficient.

The whole lower portion of the femur is hypertrophied. Increase in size is thus made to compensate for unsoundness.

I now propose to make an indirect drainage by trephining the side of the condyle.

The instrument encounters bone as hard as ivory, the cancellous structure is occupied by ossific deposits of new bone. The solid portion of the femur at this point in a healthy condition is quite thin, this conservative process has made it not only dense but almost an inch in thickness.

We may now reasonably expect restoration. Cleanliness is anti-sepsis. You need nothing more, it is doubtful whether there is anything beyond it.

Repair will not, however, take place until the interior is relieved of this carious, this ulcerating bone; this may be accomplished by granular necrosis or by necrotic slough—the separation of dead masses. Restoration is often facilitated by scraping or chiseling the rough, the inflamed, surfaces, removing the diseased bone, cutting down to healthy tissue. The same may sometimes be accomplished by the application of one of the strong mineral acids, the nitric, muriatic or sulphuric. As we cut down by caustics weak, inefficient granulations in soft tissues — the "proud-flesh" of wounds—so we may destroy caries in bone. The principle is alike, the end accomplished the same.

A combination of ergot, belladonna and iodide of iron is strongly recommended in juvenile nocturnal urinary incontinence.

It has been decided in Paris that there can be no binding agreement between a patient and his doctor, the former not being regarded as a free agent.

There are now only nine states without Boards of Health, and Pennsylvania and Ohio are the only large ones among them. Oh my!

Reports of Societies.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, October 26th, 1882.

The President, Dr. Jas. Tyson, in the Chair.

Hypertrophy of the Prostate Gland, Accompanied by Profuse and Fatal Hemmorrhage.—Presented by Dr. J. B. Roberts, for Drs. J. M. Adler and William Hunt.

The clinical history furnished by Dr. Adler is as follows: the patient, aged 66 years, of medium size, weighing 150 pounds, of regular habits, had enjoyed good health until within one year past. On a number of occasions during the past year he has had slight hæmatinuria. He passed his urine with ease, and only complained of slight perineal pain. On the 12th of September last, he arose in the morning in his usual health, but soon after breakfast he was attacked with sudden, acute pain in the bladder, which he was unable to empty. Dr. Adler saw him in a short time, when the patient complained of great hypogastric pain, and was much prostrated, with a blanched, sallow, cold skin, and a rapid and feeble pulse. A well defined pyriform swelling occupied the hypogastric region extending upwards to the umbilcus. After stimulants and morphia had been given, about one pint of fluid blood was drawn off by the catheter after which this instrument becoming blocked, a double one was introduced by means of which injections of warm water were thrown into the bladder, and another pint of broken down coagula was removed. A solution of alum, 20 grs. to the pint was then introduced into the bladder and allowed to remain. Despite the internal use of ol. Terebrinth and ol. Erigeron, with opium supporteries, the hemorrhage continued, necessitating recourse to the catheter, injections, etc., to free the bladder from coagula. Death ensued on the sixth day from exhaustion induced by the repeated hemorrhages. The diagnosis arrived at by Drs. Hunt and Adler was carcinoma of the neck of the bladder.

Sectio Cadaveris. The autopsy was a partial one, made in the undertaking establishment. Upon incising the hypogastrium, the distended bladder was at once seen, containing nearly a pint of clotted blood. This was removed, by the hand through an opening in the viscus, when Dr. Roberts felt near the vesical neck, protruding into its interior a pear-shaped mass about the size and shape of the adult uterus. This, as the members of the society saw, was evidently a greatly enlarged middle lobe of the prostate gland covered by unaltered mucus membrane. The lateral lobes were also enlarged. The mucus lining of the viscus was smooth and congested, presenting at one point two small circular depressions, with cleanly cut edges. Owing to circumstances no further examination of the body was made.

Dr. Eskridge inquired whether the blood removed from the bladder at the autopsy presented an urinous odor? He had treated recently an interesting case of recurring hæmaturia, supposed to be due to a varicose condition of the veins of the vesical neck. The patient was a man æt. 77 years, who five years ago, and at intervals since, had lost considerable blood. The former attacks had yielded readily to ergot, but shortly after the onset of the last one, Dr. Eskridge had found the bladder distended with a large clot, which he had been unable to break down by injections of either alkaline or acid solutions. The secretion of urine was suppressed during the last twenty-four hours of the patient's illness, the blood drawn from the bladder presenting no characteristic odor. The man died apparantly from uræmia, two or more severe chills preceding death, although no convulsions occurred, and he remained conscious to the last, unfortunately no post-mortem examination was obtained.

Dr. Formad thought that the growth resembled rather sarcoma than a carcinoma. He had seen two instances of round-celled sarcoma of the prostate. All growths starting from the epithelia of the genito-urinary tract, as well as from the cavity of the uterus, the kidneys and supra-renal bodies, in short growths of all the organs arising from the middle layer of the blastoderm, microscopically resemble sarcoma and usually prove to be such when microscopically examined.

Dr. Tyson said that this specimen possessed a special interest for him, inasmuch as he had had his attention forcibly directed to the differential diagnosis of a simple hypertrophy of the prostate from malignant disease of the organ, by having lately under his care a gentleman where ergot at first proved of much benefit, but in whose case the catheter was soon demanded. This instrument was used with unusual skill and gentleness by the patient himself, notwithstanding which blood occasionally followed its use. Exceedingly severe pains next developed radiating from the bladder to the testicles, groins and inner aspects of the thighs. Emaciation soon set in and he died at the end of 15 months. At the autopsy malignant disease of the prostate was found, involving by infiltration the lateral aspects of the bladder and the neighboring parts, so as to compress the nerves, thus accounting for the radiating pains complained of. He would like to know from Dr. Roberts, whether his case presented this symptom of radiating pains, and also the source of the hemorrhage, as the smooth surface of the growth, and the healthy condition of the mucus membrane of the bladder are such as to excite surprise.

Dr. Roberts in reply to the various questions propounded said, that only having made the post-mortem examination he knew nothing beyond the facts given in the notes read. As to the source of hemorrhage he would call attention to the small erosions of the mucus membrane of the bladder as the probable source.

Report of the Committee on Morbid Growths.—The speciman presented by Dr. Roberts, upon microscopic examination is found to consist of the histological elements composing the prostate gland. There is no evidence of any neoplasm, except a numerical hypertrophy of the structures of the organs. The specimen is an hypertrophic prostate gland.

Caseous Degeneration of the Kidneys, presented by Dr. J. B. Roberts for Dr. Dunmire.

Owing to Dr. Dunmire not having seen the woman until within a few hours of death, the history is of necessity imperfect. She was a married woman, 31 years old, whose husband is said to have infected her with some venereal disease. The husband had been dead for about one year, when the patient first came under treatment. There were no evidences of syphilis, so that the supposed venereal affection of the past had been presumably gonorrhœa. When seen Sept. 14th, 1882, was exceedingly ill, gave a history of general ill health for the past few years, but dated the present trouble some weeks back, when she had bathed in the surf while menstruating. This was followed by a chill, since when she had steadily grown worse. When Dr. Dunmire saw her, complained of sore throat, difficult deglutition, anprexia, sick stomach, pains in the back, with sharp pain running towards the groins, especially on the right side, tenderness over the abdomen, and frequent scanty micturition. The pulse was 140, the temperature 103°, and there was profuse leucorrhœa. An unfavorable prognosis was given, which was soon verified by her becoming unconscious, and died six hours later.

Autopsy.—The abdomen alone was allowed to be examined. All organs healthy except kidneys and bladder. The latter contained a little urine and mucus, its walls were much thickened, and its lining membrane was congested. The left kidney had little true kidney structure left, but was converted into a group of seven or eight cysts, containing a white cheesy material of a moderately firm consistence. The ureter was much dilated and thickened for about three inches from the pelvis of the kidney. The right kidney was normal in outline, but when incised revealed one large cyst with creamy contents, and also another small cavity containing a few minute calculi. Several of these could be felt through the walls of the normal ureter, thus accounting for the ante-mortem renal-colic. The perinephritic structures were unchanged, as well as the capsules of the kidneys, although these latter were perhaps more adherent, than normal.

Lymphomatous Tumors of Mediastinum.—Exhibited by Dr. W. S. Little for Dr. G. C. Smith, of Ronderet, N. Y.

The history of the patient from whom these specimens were removed is in brief at follows: A young man æt. 24 years, had been but a few days under Dr. Smith's care, having come from Boston where his physician had pronounced him phthisical, and had recommended a sea voyage. During the past few months small nodular masses had developed in the muscular tissue of the right chest walls, near the median line in front and also posteriorly. The axillary and supra-clavicular glands were involved. Shortly after Dr. Smith first saw him he developed marked dyspnœa and died suddenly, without any evidences of marked lung disease, except perhaps some symptoms of pleuritis. There was apparently mitral disease. Anasarca specially of the lower extremities gradually developed.

Sectio Cadeveris. The skin was hard and friable; nodular masses were found disseminated through the muscular tissue, which had undergone some species of degeneration; the costal cartilages presented evidences of a degeneration similar to that seen in the muscles. On removing the sternum, the subjacent tissues were markedly pigmented, and the anterior mediastinum completely obliterated by a mass of the size and shape of the half of a large lemon, which pressed against the heart. The large bronchi were involved in the growth, otherwise the lungs seemed healthy, and no evidences of slight pleurisy were found. The pneumogastric nerves were both involved, chiefly the left, and on further dissection the disease was found to occupy all of the lower part of the posterior mediastinum, involving the contiguous osseous tissues. The nerve involement explains the sudden death. The diaphragm was also involved in the lower portion of the growth. The four portions of the growths shown to the society, are, 1st, one of the subcutaneous nodules; 2nd, a small portion of the left lung near its root; 3rd, a portion of the anterior mediastinum of the tumor which involving the diaphragm, projected from the left thoracic wall into the chest cavity.

Dr. Formad inquired whether there were any other evidences of cancer in the remainder of the body.

Dr. Little replied that none were detected.

Dr. Formad then said he was unaware of any specimen of primary carcinoma of the mediastinum on record, and moved the reference of the specimen to the committee on morbid growths, as it was probably a sarcoma.

Report of the committee on morbid growths. The mediastinal growths are found on microscopical examination to consist of a mass of hypertrophic lymphatic glands, much pigmented. There are also seen adipose and fibrous tissues in a state of active prolifiration.

Cirrhosis of Liver in the Stage of Enlargement.—Exhibited by Dr. E. T. Bruen.

T. W.——aged 20 years, colored, has worked on farm since boyhood, and has been much exposed to weather. His habits were temperate, he was free from either syphilitic or malarial taint. Father is still alive, the mother died of phthisis. He was never robust but had had only one severe illness, viz: typhoid fever, from which he convalesced perfectly, but he readily "took cold". He was first seen by Dr. Bruen at the University Hospital in January 1882, where he gave the following history: abdomen began to swell a year ago, with neither pain or tenderness. Was obliged to rise at night to urinate. The abdomin swelling increased, and the previously regular bowels became constipated. Occasionly sharp shooting pains were felt across the chest when lifting weights, or working hard, and also slight pain over the liver, lasting for a few moments only. When seen abdomen measured 50 inches. On the 19th of Jan., he was tapped, 19 quarts of fluid being removed, rendering plain a much enlarged liver, covered with smooth nodular elevations, with the apex beat of the heart displaced upwards into the fourth interspace: March 18th. Five gallons more fluid were removed, after which pleural and bronchial complications arose, which soon subsided. May 6. Paracentesis by capillary needle was resorted to, which was followed by much localized tenderness around the site of the puncture. Symptoms of peritonitis occurred next day which terminated life the same evening. During life the diagnosis was most difficult and interesting. The enormous size of the liver, the palpable bosselation of its surface giving a sensation like that of crepitating tissues, as though the fluid lymph had been thrown out, and finally his abstemious habits, with absence of either syphilitic or malarial taint, suggested malignant disease. His age, the excessive rarity of primary carcinoma or sarcoma of the liver, with his family history, all negatived this view. He had had dyspepsia. He had had catarrh. Engorgement of the liver connected with catarrh of the bile-ducts, would have presented symptoms of jaundice and intermitting temperature, terminating by death from cholesteremia. The case then was one of simple cirrhosis.

Sectio-cadavaris. The abdomen contained six gallons of purulent fluid. Both the parietal and visceral peritoneum were covered with a thick coating of inflammatory lymph, tinged with blood, from multiple capillary hemorrhages. The abdominal veins were all replete with blood. The liver weighed nearly 5½ lbs., was of a nutmeg appearance, in section was indurated, and presented a bosselated nodular appearance. The gall-bladder was thickened and contracted about in ⅔ bulk. The bile-ducts were normal. The spleen was covered by a pseudo-cartilaginous capsule, but was otherwise normal, as were also the stomach, pancreas, intestines, kidneys and supra-renal bodies. The abdominal lymphatic glands were slightly enlarged.

Dr. Seiler remarked that having seen the case during life it was almost impossible to divest oneself of the idea of malignant disease. He thought that the projections were the unaltered portions of the liver, which had been compressed and squeezed out by contracting interstitial tissue.

Dr. Bruen remarked upon the obscurity of the etiology.

Dr. Tyson asked Dr. Formad, who had examined the specimen microscopically, whether he considered it to be in the first or second stage of the affection.

Dr. Formad replied that he considered it to be in the commencing of the second stage, and detailed the microscopical appearances.

Dr. Tyson, after briefly adverting to the causation of cirrhosis, said that his reason for asking Dr. Formad whether he considered that the organ was in the first or second stage of cirrhosis was that some few years since an important insurance case had been argued in our courts, where the defence was set up that the man had not a cirrhosed lived because it was enlarged, For his part he had no doubt that a liver could be in the second stage of cirrhosis and yet be enlarged, there might be enlargement from fatty infiltration concurrent with interstitial inflammation.

ACADEMY OF MEDICINE.—At the last meeting of the Academy the subject of "Tetanus" was brought up for discussion, when its pathology and symptomatology were elucidated. At the next meeting, November 13th, the diagnosis and treatment of the disease will be the subject of special discussion.

Selections.

MEDICINE.

ON THE USE OF CARBONATE OF AMMONIA SACHETS FOR BRONCHITIS.—M. Melsens having observed the good effects of the atmosphere of a stable on those suffering from pulmonary diseases, which are rightly attributed to the emanations of carbonate of ammonia, he thought that continued, yet moderate, respiration of this salt might be useful in other affections of the respiratory organs. After a serious attack of bronchitis, he decided on trying on himself the effects of carrying a little bag round his neck containing little pieces of carbonate of ammonia. From the first day the amelioration was felt, and the cough soon disappeared entirely, while often persons who suffered from chronic bronchitis also obtained relief. The use of little bags of carbonate of ammonia are intended to produce the same result as the air of a stable or a gasworks.—*Medical Press.*

ETHER INHALATIONS IN ANGINA FAUCIUM.—In the *Riv. Clin. di Bologna*, Prof Concato recommends ether spray as an inhalation in sore throat. The patient takes the exit-tube of Richardson's spray producer in his mouth, and sulphuric ether is sprayed against the pharynx for three hours. Six cases were cured without other remedies. Each case began with a rigor and a sharp attack of fever, temperature 104° F. There was swelling of the sub-maxillary gland, and pain and difficulty in swallowing. The tonsils were swollen and protruding.—*Medical and Surgical Reporter.*

THE MECHANICAL TREATMENT OF NEURALGIA. The author (Dr. E. Rasori) uses the tuning-fork in the treatment of neuralgic pains, applying its vibrating, over the course of the painful nerves. He reports the experiments of Boudet, who, by means of the tuning-fork, could check a neuralgia for some time. Boudet used the instrument in accordance with the ideas of Granville, who thought the neuralgia consisted in a peculiar vibration in the nerve trunk, to induce different vibrations in the painful nerves. He mentions many other experiments from Bal, of Paris, and Renzer and Growers, of London, where the application of the instrument was of benefit.

The instrument was applied for from twenty to forty minutes when the patient was relieved without further treatment. During the neuralgic attacks one of the women had suffered from vomiting, but after the relief from the application she was troubled no more in this way.—*Bolletino della Societa Hancisiana, Roma.* A.R.

SURGERY.

ON THE SELECTION OF CASES FOR FORCIBLE MOVEMENT IN THE TREATMENT OF STIFF JOINTS, AND THE METHOD OF PROCEDURE.—Read in the

Section of Surgery at the annual meeting of the British Medical Association in Worcester, August, 1882, by William Adams, F. R. C. S., and published in the *British Medical Journal.*

The practice of "forcible extension," as it is generally called, of joints which have become stiffened by inflammation, has of late years developed into a recognized surgical procedure, with which we are now all familiar; but not many years since we only heard of the "bone-setter" forcibly breaking down stiff joints, and frequently obtaining motion, in cases in which surgeons had failed to restore the usefulness of the joint after subduing the inflammation. It is no doubt true that surgeons formerly thought they had obtained the best possible result when, as they supposed, they cured the disease, generally by rest, immobility and counter-irritation—thus saving the amputating-knife then so freely used; and obtained a stiff joint, and with it a useful limb.

In a large number of these cases, however, the "bone-setter" found that, by forcibly bending the joint, he could break down inflammatory adhesions and restore useful motion to the joint. This success has, for generations past, formed the triumph of the "bone-setter's" art—a triumph which he generally magnified by assuring the patient that there was "a bone out," and that he had reduced the dislocation. However, there could be no doubt as to the result; and the patient obtained a useful limb with a movable joint —more frequently the knee-joint than any other —for which he felt deeply indebted to the "bone-setter," who, he believed, must have some power of discerning an injury which the surgeon had overlooked.

Side by side with this series of brilliant successes, came another series of disastrous failures, often of a serious kind—cases in which the forcible movement of the "bone-setter" was followed by serious inflammation, more intractable than the original mischief, and in some instances leading to amputation—the very result which the surgeon prided himself upon avoiding. These failures, however, in no way damaged the reputation of the "bone-setter," who only failed after the surgeon had also failed, as he assured his credulous patient, either to cure the disease or reduce the newly discovered dislocation.

The "bone-setter" of the present day, faithful to the traditions of the past, still continues the practice of so-called "forcible extension," and with the same result—viz., the admixture of a large number of unsuccessful with his successful cases. This, of course, is readily explained by the fact that the "bone-setter," having no medical education, has no power of selection. He is unable to distinguish cases of a constitutional from cases of a local origin; and whether the stiff joint may result from scrofulous or strumous disease, from rheumatism or from ordinary inflammation; or whether it may be the result of an accident in a healthy constitution. The same practice is, therefore, applied to all classes of cases, with the result above stated.

The selection of cases can only be based upon accurate pathological knowledge; and even in the present day, when pathology is so much cultivated, the basis upon which the selection should be made seems to be undetermined. It therefore occurred to me that this subject might be usefully brought under discussion at the present meeting; and that I would bring forward some observations on the pathological conditions met with in the different classes of cases, which may be found useful as a guide in the selection of appropriate cases, and upon which my own practice has been based.

In using the term "stiff-joint," it is necessary to explain that it is not intended to include cases of bony ankylosis, or of fibrous ankylosis properly so called—*i. e.*, cases in which, after the removal of the articular cartilages, the exposed osseous surfaces are directly connected by fibrous bands of adhesion passing between them. Essentially, the cases are those in which the joints are stiffened by inflammatory thickening of the tissues external to the joint; including, however, the capsular ligament, and also those stiffened by inflammatory adhesion passing between the articular cartilages.

The existence of the articular cartilage is essential to the restoration of useful and permanent motion. The healthy, or nearly, healthy condition of this structure may generally be inferred from the clinical history of the case, although sometimes it cannot be determined until after the first attempt to move the joint whilst the patient is under some anæsthetic.

For our present purpose, I would arrange all cases of stiff joints in the five following classes, placed in order from the most favorable to the most unfavorable, for treatment by forcible movement:

I. Cases of traumatic origin in healthy constitutions, generally occurring in the adult.

II. Cases after rheumatic inflammation of the joint.

III. Cases after strumous disease of the joint.

IV. Cases after acute suppurative inflammation, of pyæmic origin; and suppurative inflammation in the neighborhood of, and extending to, the joint.

V. Cases consequent upon muscular contractions.

Class I. The cases of stiff joint included in the first class —viz., those of traumatic origin in healthy adults—are, as a general rule, favorable for treatment by forcible movement; and permanent useful motion is obtained in most cases, only one or two operations being required.

There are two favorable conditions in all the cases included in this class, viz., the absence of suppurative inflammation in the joint, and of ulceration in the articular cartilages; so that when the adhesion can be broken through, the most favorable conditions for permanent useful motion remain.

The cases included in this class may be arranged in the four following groups:

1. Cases of stiff joint occurring after dislocations which have been reduced.—In these cases, it is frequently found that the motion at the joint is limited, and if after a short time this is not increased gradually by ordinary movement, it is advisable to give an anæsthetic, and resort to forcible movement. Some adhesions generally give way very easily, and no repetition of the operation is required.

2. Cases of stiff joint, or cases in which the motion is very limited, in unreduced dislocation of long standing.—In this class motion can frequently be increased by tenotomy and gradual mechanical extension; but it is also advisable sometimes to resort to forcible movement, and seldom more than one operation is required.

3, Cases of stiff joint after fractures into, or in the neighborhood of joints.—This includes a variety of cases, such as Pott's fracture at the ankle-joint; Colle's fractures at the wrist; fracture through the condyles of the humerus; and other fractures in the neighborhood of the shoulder, hip, or knee-joint. All of these injuries are apt to be followed more or less by stiff joint, or very limited motion; and these cases are especially favorable for treatment by forcible movement. One or two operations are sufficient in the slightest cases, but more may be required in proportion to the severity of the injury and the inflammation by which it had been followed. The stronger adhesions are generally external to the articulation, but in these cases, intra-articular adhesions also exist.

4. Cases of stiff joint occurring after bruises, followed by inflammation of the joint.—In injuries of this kind, which not uncommonly occur at the shoulder-joint, motion remains sometimes limited by inflammatory adhesions, chiefly external to the articulation; and when motion cannot be sufficiently increased by ordinary movements, it is advisable to resort to forcible movement; and, at one operation, the adhesions generally give way sufficiently to restore the full amount of natural motion.

Class II. The cases of stiff joint included in the second class, viz., those of rheumatic origin, are also, as a general rule, favorable for treatment; and, as in the traumatic class, two favorable conditions for the restoration of motion exist, viz., the absence of suppurative inflammation in the joint, and of ulceration of the articular cartilages. In most of these cases, only one or two operations are required, but in the more severe cases, the operation will have to be repeated several times.

In rheumatic inflammation, whether affecting the joints, the eye, the pericardium, or pleura, I believe it may be stated as a general law that there is no disposition either to suppuration or ulceration attacking any of the structures involved whether fibrous, serous or synovial; the general result of rheumatic inflammation being the effusion of lymph, and organization of adhesions.

The cases included in this class may be arranged in the three following groups.

Cases of stiff joint occurring after acute rheumatic inflammation.—As a general rule, acute inflammation, such as occurs in the course of rheumatic fever, subsides without leaving the articulation permanently damaged, and without such adhesions as would interfere with free motion. The necessity for resorting to forcible movement, therefore, rarely occurs in this class; but should motion remain limited, any adhesions will be found to give way rapidly with very little force.

2. Cases of stiff joint occurring after gonorrhœal rheumatism are generally favorable for treatment; and, in cases commenced soon after the inflammation has subsided, by forcible movement, permanently useful motion may be obtained, as in this affection no suppuration occurs, nor are the articular cartilages destroyed by ulceration. But, in the more severe cases, and when the attempt to regain motion has been too long delayed, and structural changes have gradually occured in the cortical cartilages, and result is uncertain. Complete failure sometimes occurs, *i. e.*, although motion may be obtained at the time, it cannot be permanently kept; restiffening of the joints occurring in spite of all efforts to the contrary that may be made.

It is characteristic of this affection that, as a rule, only one is involved—generally the knee or hip-joint; and when we remember that the stage of inflammation, with acute pain, frequently lasts from four to six months, during which time the limb is kept at rest, and in a state of immobility, we cannot be surprised to find that the adhesions, which are both intra and extra-capsular, are very close and strong. On this account, I recommend that the attempts to regain motion be made gradually, and repeated at intervals of three weeks. very little being done at any one sitting; and that on no account should any attempt be made to regain the full amount of motion required at any one operation. By this gradual method, I have repeatedly succeeded, when the more violent method would have failed. One case in which I adopted this treatment sixteen years ago, useful motion at the hip-joint, which in this case was affected, is still retained.

3. Cases of stiff joint occurring after chronic rheumatic inflammation are favorable for treatment, when the attempts to regain motion have not been too long delayed. The cases belonging to this class which have fallen under my observation have generally occurred in adults, and the shoulder-joint has usually been the only articulation affected. The patients have not usually suffered from any severe or well marked rheumatic pains, lingering more about the shoulder-joint; still the joint-affection is not considered by the patient to be rheumatic. I have seen many of these cases at the National Hospital for Paralysis, where they apply in consequence of loss of power in the arm, which they fear is of paralytic origin. The stiffening of the shoulder-joint is only detected by the physican who examines the case, and afterwards tranfers it for surgical treatment. This affection is usually associated with a feeble condition of the general health, and the patients sometimes suffer from kidney-disease, with albuminuria. The adhesions in these cases seem to be intracapsular, and give way very readily under slight force. In some cases, the operation has to be repeated, but generally passive movements, alone, will be sufficient to retain motion.

In some of these cases, when of long standing, structural changes in the articular cartilages gradually occur, and the joints become so firmly ankylosed, that no treatment will avail.

These cases are associated with the articular enlargements and other structural changes which occur in the ordinary form of chronic rheumatic arthritis, in which we know there is no disposition to either fibrous or bony ankylosis, though the movements of the joint may be restricted and limited by osseous enlargement and other structural changes; but the articular surfaces becomes polished and eburnated after the slow removal of the articular cartilages.

Class III. The cases of stiff-joint included in the third class, viz., those following strumous disease of the joint, are essentially unfavorable for treatment by forcible movement, in consequence of the destructive character of the disease which is usually accompanied by suppurative inflammation, as well as ulceration of the articular cartilages. Even when external abscess does not occur, the disorganization of the joint is usually complete, and either fibrous or bony ankylosis may be looked forward to as the best result than can be obtained.

Only in a limited number of these cases, in which by judicious treatment the disease has been arrested in an early stage, should any attempt be made to obtain motion—generally by passive movements systematically conducted, rather than by forcible movement; although occasionally, in a well-selected case, after an interval of time, during which the joint has been in a perfectly quiescent state, movement by slight force might be attempted, and if well borne may, be repeated at intervals, until the motion of the joint has been restored to a useful, if not to the full extent.

Class IV. The cases of stiff-joint included in the fourth class, viz., those of pyæmic origin, as well as those resulting from suppurative inflammation, commencing in the neighborhood of the joint, and subsequently extending to the articulation, are essentially unfavorable for treatment in consequence of destruction of the articular cartilages, and complete disorganization of the joints. This is more marked in the true pyæmic class, in which the destruction is rapid and complete; either ankylosis, excision, or amputation, being the results to which the surgeon can alone look forward.

In the other class, in which the articulation becomes secondarily involved, the articular cartilage sometimes escapes destruction, but both intra and extra-articulation adhesions exist to such a formidable extent, as to render the restoration of motion very uncertain. These cases, however, should be submitted to treatment shortly after the inflammation has subsided; and if forcible movement be carefully conducted and frequently repeated, at intervals of from two to three weeks, very little being accomplished at each sitting, the adhesions may be gradually torn through, and in cases in which the articular cartilages have escaped destruction, useful motion may be permanently obtained.

Class V. The cases included in the fifth class, viz., those consequent upon muscular contraction, should, perhaps, hardly be grouped in the same category as those we have already considered, because the joints are not stiffened by articular changes or adhesions, either external or internal, to the articulation; but in this class of cases, the joints are rigidly fixed by muscular contractions, mostly occurring at the hip or knee-joint, and depending upon various causes, such as paralysis and spasmodic affections; the fixed condition of the joint often being aided by long retained position—often of several years' duration—during which structural shortening and adaptation of all the structures surrounding the joint have occurred, so that a condition approaching immobility has been established.

Although differing widely in its pathological conditions from the joint-diseases previously considered, still I have in so many instances seen cases of this class submitted to the same treatment by "forcible extension"—or, as I prefer to call it, "forcible movement"—that it seems necessary to discuss them at the same time, if only to say that in all cases of this class, the treatment by forcible movement is totally inapplicable and injurious.

Forcible movement ought never to be employed to overcome muscular contractions, which will certainly yield to tenotomy and gradual mechanical extension, whether applied by means of the weight and pulley or mechanical instruments with rack and pinion movement. Healthy structtures shortened by adopted atrophy will certainly yield to gradual mechanical extension.

I have thus endeavored to describe the five classes of cases into which all cases of stiff-joint may be arranged; and in the pathological conditions existing in each class we may find reliable indications which will enable us to make a judicious selection of cases to which the practice of forcible movement is applicable, and thus establish the practice upon a scientific basis.

Method of Procedure.—It remains for me now only to make a few observations on the method of procedure which I have found to be followed by the best results, and attended by the least risk of such accidents as have been known to occur when the more violent method generally recommended has been employed.

A considerable amount of force is used by some surgeons, and even machinery recommended, for the "breaking down" of joints; but I believe where it is necessary to use so much force, there can be very little hope of permanently useful motion to the joints. It is difficult to believe that, in such cases, the articular cartilages can be in a sufficiently healthy condition for permanently useful motion. I have seen many failures, *i. e.*, cases in which the joints have quickly restiffened, and complete bony ankylsois resulted, and have never witnessed any good results which would justify the employment of such an amount of force. The accidents which have been known to follow the employment of an extreme degree of force are numerous, such as fracture of the long bones, especially the femur and humerus; separation of the epiphyses; transverse fracture of the patella; laceration of the ligamentum patellæ; rupture of the popliteal vessels necessitating amputation; laceration of the skin; and also laceration of all the superficial structures, so as completely to expose the interior of the knee-joint. Instead, therefore of employing the more violent method, and attempting to obtain the full range of motion in a joint at one operation, I adopt the gradual method in all severe cases, using at the first operation only just sufficient force to obtain the least possible movement; and then, at successive operations repeated at intervals of from two to three weeks, tear through other adhesions and gradually increase the range of motion until the full extent of obtained. After each operation, I apply hot water dressing, generally using spongiopiline, and to the leg always employ weight-extension. Absolute rest is essential, and when applicable the local vapor bath may be used two or three times a day. By this method I avoid the pain and inflammation which so frequently follow the more violent procedure.

In the simpler form of cases, a simple operation will often suffice; but it is frequently necessary to repeat it three or four times. In the severer cases, however, more than this may be required; and in one of the most severe which I have ever undertaken, after suppurative inflammation, not of pyæmic origin, but commencing below the knee, and extending to the thigh—the knee-joint being secondarily involved—it was necessary to repeat the operation as many as eighteen times. The success has been most complete, and nearly the full range of motion has been obtained, the free surface-play being now quite smooth, with the full amount of voluntary power.

Mr. Dacre Fox (Manchester) said that he had been for some time assistant to the late Mr. James Taylor, M.R.C.S., of Whitworth in Lancashire, who was the last holder of a so-called bone-setting practice two hundred years old; and he was convinced that a great amount of misconception existed amongst the profession as to what the character of such a practice was, and in what way such practitioners had achieved the success they had. The so-called bone-setting or freeing of stiff joints formed only a small part of it, as it principally consisted in the treatment of recent fractures, dislocations, and sprains; and it was by their manipulative and mechanical skill in the treatment of these injuries that such men had acquired their reputation. Much credit was often gained by bone-setters from lack of care in diagnosis and treatment on the part of general practitioners, as small but troublesome injuries were often overlooked or treated in a very perfunctory way. With regard to the freeing of stiff joints by those who could have no knowledge of the anatomy of a joint or the pathology of its diseased condition. there were certain external indications which had no doubt taught bone-setters to classify the cases upon which they dare venture to operate. 1. Joints that had become stiff from treatment after injury, or from disuse to avoid pain through moving a neighboring part; in these the bony points were unusually prominent, the ligaments hard and rigid, and the limb exhibited considerable resiliency; these might be broken down with safety, and "suddenness" was desirable in the operation, as less likely to set up any subsequent inflammation than the gradual dragging on recently formed adhesions. 2. Joints stiff from chronic disease; in these the outlines of the joint were much hidden, and they presented a more rounded swollen appearance than was natural to them. Manipulation treatment in these cases was not desirable, as it was nearly sure to be followed by disastrous results; and if in any case more freedom of movement was obtained, it was of only a temporary character. 3. Joints stiff from old sprains; these were incomparably the most frequent, and those in which bone-setters gained the greatest credit at the practitioner's expense, mostly from want of active treatment on the part of the latter. Mr. Fox, having dwelt at some length on the pathology of a sprained joint, pointed out that in such an injury, after a time, the joint involved became partially stiff, was more or less swollen, and always exhibited one particularly painful spot, which indicated the seat of most injury to the ligament that had sustained the greatest resistence to luxation when the accident to the joint occurred. In these cases the adhesions should be broken down, the œdema about the joint, and particularly in the tendon-grooves, dispersed and firm, direct, constant pressure maintained over the ligaments and the tendons passing under them. Mr. Fox said there was very much that might be "culled" with advantage from the practice of bone-setters, more particularly in their treatment of fractures by simple splints and well-devised pads in place of the many intricate mechanical appliances it seemed the fashion to invent. A very little inquiry, made without prejudice, would bring to light methods of treatment really based on principles, the results of which had hitherto been regarded as a mixture of charlatanism and good luck.

Mr. Bernard Roth (London) said that he wished to direct the attention of the section to one joint in particular, viz., the shoulder-joint. He had met with three consecutive cases of fixed shoulder-joint which had all, more or less, failed to be relieved by "bone-setting," although placed in apparently most favorable circumstances. The first case was not under his treatment, although he watched the case throughout. The patient, aged fifty-nine, suffered from "chronic rheumatism" of the right shoulder-joint for two years. All motion was lost, except a slight yielding on much force being employed, when the patient complained of considerable pain. Dr. Wharton Hood was called in, and did "bone-setting" on May 24th, 1879, while the patient was under ether. While the patient was still insensible, Mr. Roth examined the joint, and found some amount of motion in all directions, accompanied by crepitation. Dr. W. Hood sent the patient daily to be exercised and shampooed to an ordinary gymnasium. A month afterwards the joint was almost exactly in the same condition as before the operation. Ten months afterwards not a trace of abduction was possible, although a very limited amount of rotation in and out, and of forward and back movement, was present. Mr. W. Adams did "bone setting" that day, and also two months later, each time under anæsthetics, but without, unfortunately, obtaining any decided increase of abduction. The patient eventually gave up all treatment. In the second case, a young lady, aged fifteen, had found her left shoulder-joint gradually becoming stiff during the previous four years without any history of injury or acute inflammation. With the exception of a slight amount of to-and-fro motion when the elbow was quite close to the side, all movement was lost. Mr. Roth forcibly moved the joint under ether. He repeated the operation twelve days later, but the only result was a slight increase of the to-and-fro motion, and scarcely any abduction and rotation out. The third and last case—a girl, aged nine—had her right shoulder always weak, with great limitation of motion in all direction, especially in abduction and rotation out. With the permission of Sir J. Paget, who had in the meanwhile seen the patient, and who gave a cautious diagnosis, Mr. Roth forcibly moved the joint on March 29th. "I repeated the operation on April 19th and April 24th, using much force the last time with the help of Dr. Uhthoff, who gave ether on each occasion. Yet the amount of actual gain of movement was little, and I could scarely look upon the case as successful."

These three cases all had a trace of motion in the shoulder-joint, without any history of injury or acute inflammation. This limited amount of motion was only slightly increased by repeated forcible "bone-setting," three times in the first case, twice in the second, and three times in the third. He believed this want of success in the shoulder-joint was due to extreme looseness of the capsule of the joint. When the arm hung by the side of the trunk, the habitual position, the capsule fell in folds below the neck of the humerus; and if any inflammation, causing exudation and organization, occurred in the capsule, the folds became so knitted together by adhesions in course of time, that any unfolding was impossible, to allow abduction or rotation out of the humerus; hence no force short of one capable of producing dislocation could overcome the resistence offered. He should like to hear the experience of Mr. Howard Marsh, and of the members present, on the subject of "bone-setting" applied to the shoulder-joint when there was still a trace of motion left.

Mr. Pearce Gould (London) promised that he would confine his remarks to cases of stiff joint for extra-articular adhesions, or in which the intra-articulated mischief was so slight as not to be distinguishable; and he doubted whether "bone-setting" did much good in other cases. The points upon which he laid stress were; 1, the complete setting free of the joint at one operation wherever possible, by means of force skilfully applied, and consisting in the main in flexion and rotation movements; 2, daily passive motions through the entire range of movement; 3, active movements. The wasting of the disused muscles was one of the main difficulties to contend with, and cure could not be obtained until this lesion was repaired. The cases required great perseverence on the part of both surgeon and patient.

Mr. Martin Coates (Salsbury) remarked upon the importance of paying attention to so-called bone-setting, and acknowledged that he had learned much from Mr. Wharton Hood's work on the subject. It had enabled him to do just what the bone-setters did, and saved him from the discredit frequently visted upon the regular surgeon who had not paid attention to ths subject.

Mr. Howard Marsh, having thanked the meeting for its reception of his paper, said that Mr. B. Roth's cases were not those of bone-setting; they corresponded to Sir James Paget's cases of quiet-joint, or were cases of diseased joint. With Mr. Pearce Gould, he agreed that all adhesions should be broken down at once by a method of full rotation and flexion. The "crack" was due to the separation of joint-surface.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, November 11th, 1882.

Bibliography.

FIRST ANNUAL REPORT OF C. H. CRANE, SURGEON-GENERAL U. S. ARMY.

Surgeon-General Crane's first report is quite creditable to himself and the country at large. We give a few of the most interesting parts:

Health of the Army During the Fiscal year Ending June 30, 1882.—The monthly reports of sick and wounded received at this office up to September 8th represent an average mean strength of 20,778 white, 2,265 colored troops, and 245 Indian scouts.

Among the *white troops* the total number of cases of all kinds taken on the sick list was 34,880—being at the rate of 1,679 per 1,000 of mean strength.

Of this number, 30,353, or 1.461 per 1,000 of strength, were taken on sick report for disease, and 4,527, or 218 per 1,000 of strength, for wounds, accidents and injuries of all kinds.

The average number constantly on sick report during the year was 942, or 45 per 1,000 of mean strength.

Of these, 762, or 37 per 1,000 of strength, were constantly under treatment for disease, and 180, or 8 per 1,000 of strength, for wounds, accidents and injuries.

The total number of deaths from all causes reported among the white troops was 216, or 10 per 1,000 of mean strength.

Of these, 141, or 7 per 1,000 of strength, died of disease, and 76, or 3 per 1,000 of strength, of wounds, accidents and injuries.

The proportion of deaths from all causes to cases treated was 1 to 161.

The total number of white soldiers reported to have been discharged the service on "Surgeon's Certificate of Disability" was 848, or 41 per 1,000 of mean strength.

Among the *colored troops* the total number of cases of all kinds reported was 4,099, or 1,810 per 1,000 of mean strength.

Of these, 3,481, or 1,537 per 1,000 of strength, were cases of disease, and 618, or 263 per 1,000 were wounds, accidents and injuries.

The average number constantly on sick report was 100, or 44 per 1,000 of strength; of whom 77, or 34 per 1,000 of strength, were under treatment for disease, and 23, or 10 per 1,000 of strength, for wounds, accidents and injuries.

The total number of deaths of colored soldiers reported from all causes was 25, or 11 per 1,000 of mean strength.

Of these, 16, or 7 per 1,000 of strength, died of disease, and 9, or 4 per 1,000 of strength, of wounds, accidents and injuries.

The proportions of deaths from all causes to cases treated was 1 to 164.

The total number of colored soldiers reported to have been discharged on "Surgeon's Certificate of Disability" was 98, or 43 per 1,000 of mean strength.

The total number of cases reported among the Indian scouts was 56; being at the rate of 229 per 1,000 of mean strength.

Of these, 43 were cases of disease; and 13 of wounds, accidents and injuries.

The total number of deaths was 9; 4 from disease and 5 from wounds.

Work Performed in the Record and Pension Division.—The total number of official demands upon this Division during the fiscal year, for information as to the cause of death in the case of diseased soldiers and the hospital record of invalids, was 61,630, being 6,590 in excess of similar applications during the previous year. 21,408 applications remained unanswered on the 1st of July, 1881, making in all 83,038 to be disposed of during the year. Of the new cases, 59,166 were from the Commissioner of Pensions; 2,209 from the Adjutant General of the Army, and 255 from miscellaneous sources. Search has been made and replies furnished to the proper authorities in 61,079 cases. Of these, 58.592 were to the Commissioner of Pensions; 2,186 to the Adjutant General of the Army, and 201 to miscellaneous applicants; leaving 21,959 unsearched cases. As this is an excess of only 551 cases over the number remaining on hand at the date of my last report, it will be seen that although the office has not been able to make any permanent decrease in the number accumulated during previous years, it has proved itself competent to deal with an increase of 20,000 cases over that of the last fiscal year, and has very nearly kept pace with the increased requirements of the Pension Office.

Since the addition to the clerical force engaged upon pension work in in this Office, provided by the Act of March 3, 1881, and mentioned in the last report of the Surgeon-General, there has been not only a considerable increase in the aggregate number of reports furnished to the Commissioner of Pensions, but it is gratifying to be enabled to report an increase in the number of cases that have been disposed of by the mean number of cases that have been disposed of by the mean number of clerks exclusively employed upon the technical work of searching the hospital records. This increase has risen fully 33 per cent. over and above the average number of cases searched each day by the same force during the previous year; and considering the fact that the men employed exhibit every degree of aptitude in learning this peculiar and difficult work, the figures will serve to illustrate that with a new force only a gradual acquisition of skill is to by anticipated, and that a proper degree of accuracy and celerity is attained only by great familiarity with these hospital records supplemented by a special and often protracted course of training.

I would also refer in this connection to a progressive increase in the difficulty of search for record of the hospital treatment of soldiers who served in the late war. As time elapses claimants appear to be more than ever unable to furnish definite information concerning the date and place of their treatment. There is much evidence at hand to establish the fact that this difficulty does not arise from defective memory alone. It is to be regretted that there is too often a manifest failure on the part of those preparing declarations for pensions in pressing inquries upon these very important points, as it is the cause of much of the delay hitherto charged to this Office.

Increasing demand for the replies to the Commissioner of Pensions has heretofore prevented the detail of any sufficient number of clerks upon the very important work of copying the large number of worn and mutilated records now on hand, and rapidly accumulating. With the prospective addition to the clerical force, it is intended that this work shall at once be taken up, and the preservation of evidence contained in these important volumes be made secure by their duplication, so far as may be practicable and consistent with the object for which the increase of force is provided, viz.: the final adjudication of all pension claims within a limited number of years.

139 volumes of hospital records were received from discontinued posts, commands, and other sources during the year, making the total number of such volumes on file 18,222. The classification of these records is complete, and the hospital designation, description of contents, and period covered by every book is recorded in a series of State, Army Corps, and Department Indexes, numbering 160 volumes. The wear upon these Indexes has been so rapid that it has become

necessary, by means of numerous hektograph copies, to insure their preservation; 22 volumes, 15 copies to each, have already been made, and the remainder will probably be completed during the coming fiscal year.

The subject of a complete alphabetical index of all names borne on the records of this Office, has been under consideration for several years, but after mature deliberation, it is concluded that the task is impossible of accomplishment without an entire suspension of all ordinary business.

At such time as the proper men could be spared, a special examination, with the view of enumerating the names borne on records-in-chief, has been undertaken. Of Registers of Sick and Wounded, including prescription books that embrace dates not otherwise covered, there have been examined and counted 4,547 volumes, which represent, in part only, the records of 1,461 General, Post, Field, and miscellaneous hospitals, and 965 Regimental hospitals. On these registers in-chief there already have been enumerated 7.413,847 names of sick, wounded, and deceased soldiers; and when it is considered that these are contained in less than one-fourth of the number of volumes known to be on file, the magnitude of the work projected will be more justly appreciated. That something has been accomplished in this direction, the following figures will definitely show; but it is work that was commenced before the close of the war, and has continued at varying intervals up to date: 1,182,122 names are now arranged in alphabetical order; 1,287,504 are indexed; 149,920 are partially indexed; 534,507 names are arranged in the order of states or regiments, and of companies, making a grand total of 3,220,612 names that may be said to be filed in convenient shape for everyday reference.

Division of Surgical Records.—In the Division of Surgical Records the principal work has embraced the examination of the surgical reports of medical officers of the army, their acknowledgment and classification, and the registration of the data contained in the same; the correspondence pertaining to the Army Medical Museum, and the continuation of the publication of the third surgical volume of the Medical and Surgical History of the War.

Wounds, accidents and injuries to the number of 5,158 were recorded in Class V. of the Monthly Reports of Sick and Wounded during the fiscal year ending June 30, 1882, in a mean strength of the army of 23, 208; 89 deaths from wounds received in action or from other violent causes were reported, a proportion of 3.8 per 1,000 of the mean strength.

2,066 surgical reports were received from medical officers in charge of post hospitals or detachments of the army in the field or expeditions against hostile Indians; 1,580 were regular quarterly reports ten were reports of casualties received in action, 33 were special reports, and 443 were of a miscellaneous nature.

Property Division.—Medical and Hospital Supplies.—The money value of the Medical and Hospital Supplies issued during the fiscal year ending June 30, 1882, was $181,330 80.

Owing to reductions heretofore made by the Committee on Appropriations from the amounts estimated by the Surgeon-General as required for the Medical and Hospital Department of the Army, it has been necessary to issue for use certain medical supplies left over from the stock on hand at the close of the War of the Rebellion, which have to a greater or less extent deteriorated by age, and, though inocuous, are of very uncertain strength and therfore not, in the proper sense, fit for issue. Even this expedient will not avail and cannot be depended on in the future, as these supplies are now exhausted by issues and must be replaced by purchases. An increase of $50,000 over the amount usually appropriated for this purpose, will be required during the fiscal year ending June 30, 1884, and estimate of appropriations will therefore be submitted in the sum of $250,000; which amount, it is thought, will be barely sufficient to meet the necessities of the service during the year, and which I respectfully and urgently request may be allowed. * * *

Library.—The Library of this Office is devoted entirely to medicine and its branches; no purchases being made of books belonging to general or miscellaneous literature. The works in it are not duplicated in any other library in Washington, excepting only those copy-right American medical books, of which specimens are deposited with the Library of Congress. Many of these are also presented to this Library, so that this small duplication causes very little expense. No advantage would accrue from merging this Library with any other; its size and importance, and the demands made upon it being such as to require the services of a specially skilled medical officer to make it as useful as it should be, and to preserve for it the interest of the medical profession of the country to which much of its completeness is due.

The additions to the Library during the past year include about 3,200 volumes and 3,500 pamphlets, making the total number in the collection about 57,000 volumes, and 637,000 pamphlets.

The printing of Volume III. of the Index Catalogue has been completed and the edition distributed. This volume ends with the end of letter D. The manuscript of Volume IV., which will include the letter E and part of F, is nearly ready, and the first part of it is now going to press. The use of the Library by the medical profession throughout the country is steadily increasing, and the requests for information made upon it involve much research and extensive correspondence. Over 300 such requests were received during the year, coming from all parts of the United States, and the total number of letters sent from this branch alone was over 1,000.

An estimate has been forwarded for printing Volume V. of the Index Catalogue and it is specially desirable that this appropriation be granted in order that no delay may occur in the issue of this work, the practical value and utility of which becomes more and more apparent as successive volumes are published. * * * *

Surgical History of the War of the Rebellion.—98 drawings on wood, 98 engravings, 2 chromo-lithographs and 1 black and white lithograph were prepared for the Third Surgical Volume of the Medical and Surgical History of the War, and 167 pages of this volume were completed, advancing the work from page 535 to 702, inclusive. The manuscript of this volume is now sufficiently advanced to allow the volumne to be completed and laid before Congress during the coming session if no unforeseen delay in the printing occurs. * * *

While Congress may have been extravagant in some of its appropriations, it evidently was not in its expenditures for Medical and Hospital supplies. Is it necessary that our sick soldiers should be compelled to use medicinal supplies "deteriorated by age" and of very uncertain strength?"

System of Surgery. — Pathological, Diagnostic, Therapeutic, and Operative.[1]

In presence of the King all men instinctively make obeisance, so in taking up this, the crowning work of the laborious and eventful life of America's most distinguished surgeon, we bow in homage and profound respect.

The first edition of this great work now so familiar to every surgeon was issued in 1859; from time to time as the large editions were exhausted, the author carefully revised the work, each time setting forth the advances made in surgical science, until the present issue, where we find he has in addition to his own great work called to his aid Professor S. W. Gross, Drs. J. Solis Cohen, Geo. C. Harlan, Charles H. Burnett, William Thompson, Edward C. Seguin, Robert Batty, Lewis H. Sayre, Richard J. Dunglison, and Surgeon-General Barnes, U.S.A.

The author has conscientiously revised every page of the fifth edition, and in doing so has found it necessary to rewrite nearly every chapter, noting the extraordinary strides which surgery has made during the past fifty years; much of which he attributes to the foundation unconsciously laid by Dr. Ephraim McDowell, in 1809, when he performed his first operation for the removal of a diseased ovary. To that operation in the bold hands of his successors are directly due the brilliant achievements which have made abdominal and pelvic surgery famous the world over. To Professor Lister, the author accords praise as being the first to teach surgeons the importance and value of thorough cleanliness in their operations and dressings, entitling him to the credit of being one the world's eminent benefactors. To specialism he pays a tribute in that for what it has accomplished, it is entitled to undying praise—to its triumphs within a comparatively brief period general surgery is greatly indebted for its success.

Reviewing his own work and scanning the field of surgery, he concludes that "operative surgery is rapidly advancing toward its finality of perfection; surgical pathology under the influence of the cell doctrine, and of the plastic genius of Paget, Virchow, Billroth, and others, has been placed upon a permanent basis, and therapeutic surgery was never in so healthful condition as it is at the present moment." From which he goes on to bear testimony to the skill and ability of the surgeons of the present day, and that it is gratifying to find that American surgery is fully abreast of the surgery of other nations.

The general plan of the work is similar to that found in previous editions. The illustrations are excellent; many being original; while the mechanical execution is highly creditable to the well known publishers.

Publications Received:

The Malignity of Syphilis, with an Analysis of Four-Hundred-and-Fifty Cases of the Disease. By L. Duncan Bulkley, A.M., M.D., Attending Physician for Skin and Veneral Diseases at the New York Hospital, etc. [Reprinted from the Transactions of the Medical Society of the State of New York, 1882.]

Medical Relations of the Prevailing Forms of Food Adulterations.—By Henry Leffman, M.D., Lecturer on Toxicology, at Jefferson Medical College, Philadelphia. [Reprinted from Transactions of Pennsylvania State Medical Society.]

The Female Perineum.—By T. G. Comstock, M.D., Master in Obstetrics of the University of Vienna. St. Louis. [Reprinted from the St. Louis Clinical Review.]

Alcohol Anathesia.—By Lewis D. Mason, M.D., Visiting Surgeon to the L. I. College Hospital, Consulting Physician to the Inebriates Home. Fort Hamilton. [Reprint from the Journal of Inebriety, Oct., 1882.]

Abortion Treatment of Mammary Abscesses and the Cure of Fissured Nipples by Means of a New and Effectual Compress.—By George H. Noble, M.D., Atlanta, Georgia. [Reprinted from the Atlanta Medical Register, September, 1882.]

The Application of Pressure in Diseases of the Uterus, Ovaries, and Peri-Uterine Structures. — By V. H. Taliaferro, M.D., Professor of Obstetrics and Diseases of Women and Children in the Atlanta Medical College. [Reprinted from the Atlanta Medical Register, September, 1881.

Ten Years' Experience in the Treatment of Stricture of the Urethra by Electrolysis. — By Robert Newman, M.D., Permanent Member of the N. Y. State Medical Society, Surgeon Northwestern Dispensary, etc. [Reprinted from the Medical Record, Aug. 12, 19, 1882.]

Stricture of the Rectum.—Treated by Electrolysis. By Robt. Newman, M.D., of New York. [Reprint from New England Medical Monthly, Sept. 1882.]

A Study of Some Points in the Physiology of Digestion.—By C. L. Dana, A.M., M.D., Professor of Physiology in the Woman's Medical College of New York, Physician to the Class of Nervous Diseases, Northwestern Dispensary, Member of the New York Neurological Society, and of the American Neurological Association, [Reprint from the Boston Med. and Surg. Jour., Sept., 14, 1872.]

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[1] By Samuel D. Gross, M.D., L.L.D., D.C.L. Oxon., L.L.D. Cantab, Emeritus, Professor of Surgery in the Jefferson Medical College. Illustrated by upwards of sixteen hundred engravings. Sixth edition. Thoroughly revised and greatly improved. In two volumes, Philadelphia: Henry C. Lea's, Son & Co., 1882.

Original Communications.

A CASE OF MELANOSIS.

Read before the Cincinnati Medical Society, Oct. 10, 1882.

By Wm. H. Falls, M.D., Cincinnati.

This very rare disease was first fully described and named by Laennec in 1806. Since the time of its recognition as a special disease very few cases have been met with, and therefore when a new case does occur, it attracts more than the ordinary attention of the profession. The disease is characterized by the deposition in various tissues of the body of a peculiar black or dark brown substance which has given origin to the name. "It has its seat most commonly in the connective and adipose tissues, but is also found, though rarely, in the mucous and serous membranes, in tendons and cartilage, as well as in the osseous system, particularly the bones of the cranium, the ribs and the sternum. The organs it most commonly affects are the liver, lungs, spleen, pancreas, lymphatic glands, brain, eye, kidney, testes, uterus, ovaries, rectum and mammæ.

Melanotic matter has been detected in the blood, particularly in that taken from the minute veins of the liver. It is sometimes found associated with cancer and sarcoma, and has a great tendency to extend to different parts of the body through the lymphatic system. Dr. Carswell describes true melanosis as divided into four forms, viz.:

1. The punctiform, in which the black substance appears in the form of minute points or dots, grouped together in a small space or irregularly scattered over a large surface.

2. Tuberiform melanosis (the most common and conspicuous of all the forms) may occur in most of the organs and sometimes on serous surfaces, such as the pleura and peritoneum. The tumors vary in size from a pin's head to an orange; they may be single or aggregated together; in the latter case producing irregularly shaped masses of great bulk.

3. Stratiform melanosis occurs only on serous membranes. This form is more frequently met with in the horse than in man.

4. Liquiform melanosis, chiefly found in natural or morbid cavities, is met with in consequence of the destruction of melanotic tumors and the effusion of their contents into serous cavities. The accidental cavities in which it has been found have been chiefly ovarian cysts. The substance deposited is dark, but of different hues, sometimes reddish-brown, sometimes of a soot-color, and occasionally bluish, violaceous, or black. In consistence it also differs, some having the firmness of a lymphatic gland, others the softness of suet, and others again being pultaceous or semi-fluid, and these different conditions may all exist in the same person at the same time. It is in general nearly or quite inodorous, and imparts a temporary stain when rubbed between the fingers.

The affection is connected with a peculiar diathesis or constitutional tendency, as the deposition often takes place in different and distant parts of the body at the same time, and the melanotic tumors are seldom solitary.

The symptoms of melanosis are not well marked. When the melanotic deposit takes place in internal organs their presence is often only ascertained after death. The appearance of the subcutaneous tumors or nodules are of great aid in the diagnosis of this disease. In the cases recorded the symptoms were as follows: a gradual sinking of the vital energies, a cachectic habit of body, and a dusky ash colored countenance, and in some cases a dark discoloration of the skin. A marked change takes place in the nutritive function, slowly giving rise to emaciation, dropsy, feeble pulse and night sweats toward the termination of the disease, and where the lungs have been affected a black mucous expectoration.[1]

The pathology of the disease is uncertain and pathologists entertain different views on this point. Mr. Paget regards the disease as medullary cancer with the deposition of black pigment. Billroth considers all melanotic tumors as having the structure of sarcoma or carcinoma. Green holds that the majority of the cases are melano-sarcoma, and with rare exceptions melano-carcinoma. Cornil and Ranvier do not regard melano-sarcoma and melano-carcinoma as coming under the condition described as melanosis. They hold that the tumors are simple melanotic masses, and entirely distinct from sarcoma or carcinoma, although generalized in all the organs like the most malignant tumors.

A. Heurtaux, in the "New Dictionary of Medicine and Surgery," Paris, 1876, Vol. 22, page 48, thus describes this disease: "Melanosis is divided into two principal varieties, viz:

1. Benign melanosis.
2. Melanic tumors.
    - Principal varieties.
        1. Simple infectious melanosis.
        2. Melanic sarcoma or melano-sarcoma.
        3. Melanic carcinoma or melano-carcinoma.
    - Exception'l varieties.
        - Melanic chancroid
        - Melanic fibroid

In the simple melanosis it is simply the deposit of pigment in the normal tissues of the organism without the formation of new elements. In the other varieties the same deposition of pigment takes place, but with the formation of new elements, which manifest all the malignancy of sarcoma and carcinoma. All forms of melanosis have a progressive course to a fatal termination."

The most remarkable case of this disease on record is the one which came under Mr. Prescott Hewett at St. George's Hospital, London, in April, 1856. and reported in full in the *London Lancet*, vol. 1, 1856, p. 657, and in Volume 1, 1861, p. 263.

In 1850, the patient, George K—, had a tumor removed from the right flank by Mr. Lawrence, of St. Bartholomew's Hospital. At the time of his admission to St. George's Hospital, April 7th, 1856, he had melanotic tumors over various parts of the body. Some of these were removed by Mr. Hewett (at the request of the patient) and the patient recovered from the operation and was discharged on the 11th of June.

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[1] Tanner's Practice of Medicine and Wood's Practice of Medicine, articles on "Melanosis."

On the 14th of July, 1856, he was re-admitted, the tumors, remaining at the time of his discharge in June, were growing rapidly. He had slight ptosis on each side and had loss of motion in the right hand and arm and the mouth was drawn to the left side. There was also partial loss of sensation in the right arm and leg, the speech was slow and hesitating. On the evening of the 28th he died suddenly. The post-mortem examination revealed tubercles of mixed melanotic and encephaloid cancer in various parts of the body. Among the parts in which they were found were the heart, liver, pancreas, kidneys and the brain. The true nature of the cancerous and melanotic disease was determined by microscopical examination.

Mr. Oliver Pemberton in his "Work on Cancer," refers to two cases of this disease which came under his own observation. One occurred in June, 1854, and the other in March, 1855. Dr. S. D. Gross, of Philadelphia, in his "System of Surgery," Vol. 1, p. 320, refers to a case under his own charge in 1855. At the post-mortem examination the melanotic tubercles were found in various regions and organs of the body. A notable feature in this case was the existence of numerous white and grayish tubercles in the midst of black showing that the former were in a nascent condition, having not yet undergone the melanotic transformation.

The case which came under Mr. Lawrence, of St. Bartholomew's Hospital, and reported in the *Medical Times and Gazette*, of London, February, 1864, and also quoted in Tanner's "Practice of Medicine," page 111, has attracted considerable attention. In his patient the disease was well marked, and the case which came under my own care, was in many respects almost identical with it.

Dr. George Henry Fox, of the College of Physicians and Surgeons of New York, in his "Atlas of Skin Diseases," has very ably presented the case which came under the charge of Dr. L. D. Bulkley, of New York, in 1875, and which is described as Melano-Sarcoma or Melanosis. The case of Dr. Bulkley differs from my own, in the longer duration (six years) of the disease, but in several points very much resembles it.

The following is the history of the case which has been under my charge. Record made on April 5th, 1882:

Samuel Harvey Robison, born in Greenville, Ohio, August 31st, 1854, carpenter, married, father of three children, only one living. General health has always been good and has worked at his trade of carpenter since he was sixteen years old up to the early part of last February. When twelve years of age he had attacks of intermittent fever, quotidian type, during one entire summer. Occasionally since that time he has had one attack in the spring, but has had no attacks for two years. For the past ten years he has had occasional attacks of dyspepsia. Commencing five years ago he had an attack of intestinal colic about every three months. It would come on in the evening and continue all night, but in the morning he would be entirely over it. These attacks of colic continued for three years.

In January, 1881, he contracted gonorrhœa, accompanied with epididymitis on the left side, after a duration of three months he recovered from this disease.

December 1st, 1881, the sight of the left eye became impaired, and about the first of February, 1882, the right eye also became affected. (Report later of Dr. S. C. Ayres, of Cincinnati).

On January 11th, 1882, he was sent to Dr. W. H. Mussey and myself by Dr. L. G. Lecklider, of Greenville, Ohio, for the purpose of having an operation performed for the removal of the congenital nævi. Being a man of moderate means, he consented to have the operation performed before the class at the Cincinnati Hospital, and on January 13th, 1882, they were removed by Dr. W. H. Mussey. One was situated over the angle of the left scapula, and the other two over the left sterno-clavicular articulation. At the time they were removed they were of a reddish-brown color, and quite prominent. They had remained about the same size for a long time, and were removed on account of the clothing irritating them and causing them to become abraded. One year ago he noticed an enlargement of one of the glands of the left axilla, it gradually increased in size up to two months ago, but since that time has not enlarged. With the exceptions of the diseases stated he has always enjoyed unusually good health.

Family history.—Father died of phthisis pulmonalis. During the last sixteen years of his life he was afflicted with an epithelioma on one of his lower eyelids, and for the four years before his death, it gave him considerable trouble on account of its painful character.

Mother living and in good health. Ten years ago her left breast became enlarged and suppurated, more or less, for about one year, when it healed and caused no trouble afterwards.

Has had two sisters and two brothers. All are living. No history of consumption or cancer in the family except as has been stated.

On March 10th, 1882, Mr. Robison arrived in this city from Greenville and called on me to have me accompany him to Drs. Williams, Ayers and Sattler, for their opinion and treatment of his eyes. I placed him under their care, and he became a patient of their's in their private hospital.

On March 15th, 1882, while voiding his urine into a vessel, he was told by another patient that his urine was of a very dark color. The same day he called on me for advice and treatment of this condition. Judging from the dark appearance of the urine, but without giving it an examination, I supposed it was a case of hæmaturia, and gave him,

℞ Ext. ergot. fl. ℥iiss
Tinct. ferri chlorid ʒss.

M. Ft. mist. sig. one teaspoonful every four hours.

He continued this treatment for one week and then reported to me that he was much better, as the urine was not quite as dark in color. At this time he was very much constipated and his stools were of a yellowish white color, I then discontinued the medicine given on the 15th of March and gave him

℞ Sodii phosphas. ℥iii (3)

Sig. One teaspoonful in water 3 times a day.

I saw or heard nothing of the patient from this time until the 6th of April, when my attention was aroused to the importance of the case. I then made the following notes and observations.

Weight at present is 135 lbs. Has lost fifteen pounds in weight since the first of last February. Locomotion perfect. Appetite fair. Tongue slightly coated with a light brown fur. Bowels generally costive. Passes urine freely and it is of a dark brown, almost black, color. Abdomen bloats frequently and he suffers from occasional attacks of water-brash. Irregularly has shooting pain through his bowels, and some pain in his back over the lumbar region. His strength has gradually failed him during the past two months, and at the present time he does not feel able to perform manual labor.

General appearance and physical examination: Height, five feet, six and a half inches. Hair of head dark brown in color and curly. Reddish brown mustache. No beard. Irides gray in color. Scleræ of a dark ashy hue. Body only fairly nourished.

Integument of ears, face and neck, and mucous membrane of eyelids, nares, mouth and fauces is of a dark ashy color. The lips also present the same appearance. The integument of the trunk and upper and lower extremities, with the exceptions named, is normal in color. Scattered over the various parts of the body are numerous nodules varying in size from that of a pin head to a large pea. These nodules are thickest on the anterior portion of the trunk and on the anterior portions of the upper and lower extremities. On the extremities they are more prominent in the course of the veins. A few are scattered over the scalp, face and neck, one being quite prominent on the upper eyelid of the right eye. A small number on the scrotum and penis, one being very conspicuous on the glans penis. To the touch they are hard, and seem to be situated in the subcutaneous tissue, the integument being freely movable over them, except those on the anterior part of the trunk. Several of them are flattened and the integument is not as freely movable over them. I should judge, with a rough estimation, that there are at least two hundred of these nodules on the body.

Physical examination. Heart and lungs normal. Abdomen prominent. Liver enlarged, the hepatic dullness extending three inches below the margin of the ribs. Splenic dullness increased about two inches in each measurement. Some tenderness over the spleen, but over no other portion of the abdomen.

Pulse 80. Temperature 98½° F.

The patient states that these nodules first made their appearance on the right shoulder, during the latter part of January, 1882.

As they were not painful and had only gradually increased in size and number, he had not thought it necessary to say anything to me about them, or to call my attention to them. When he first noticed them they felt about the size of a small pin head.

He states that the discoloration of the skin first made its appearance about one week ago, and that it has gradually become darker in color. He now states that his family had occasionally noticed during the past two months the dark appearance of his urine but he himself had paid no attention to it.

The urine was examined by Prof. Joseph Eichberg of the Miami Medical College with the following results.

"Urine very highly colored, almost black. On standing deposits a very abundant, dense and heavy dark brown precipitate. The supernatant liquid becoming perfectly clear and of a dark amber color.

Reaction faintly acid. Sp. gr. 1018.

A very peculiar sweetish odor. Some albumen.

Microscopical examination shows sediment to consist largely of casts of a dark brown color, finely granular, without definite cellular elements, although here and there an epithelial cell may be seen adhering to the cast.

In addition there is a large quantity of an amorphous powder (urate of soda), and a few altered red blood corpuscles. There are also found some cells of bladder epithelium covered with the amorphous powder."

The case presenting the history and symptoms stated, the important question presented itself: What is the disease?

The possible diseases coming under a differential diagnosis were Addison's disease, melanæmia, chloasma, argyria, and melanosis.

The dark discoloration of the skin pointed very strongly to Addison's disease, but taking into consideration the black urine, the sudden and rapid discoloration of the skin, and the nodules, with the absence of anæmia, progressive emaciation and gastric irritation, I decided it was not Addison's disease.

The splenic enlargement, dark urine and discoloration of the integument were indicative of melanæmia; but the absence of malarial fever, an elevation of temperature, intestinal hæmorrhage or marked brain symptoms, and the presence of the nodules, excluded this disease.

It could not be regarded as a case of chloasma merely, for with the change in the color of the integument, other important conditions were present not found in cases of simple chloasma.

Is it a case of argyria? On questioning the patient I ascertained that he had not taken any of the preparations of silver, and therefore argyria was not to be regarded as the disease.

Having carefully considered the history which I have given, and the symptoms which I have stated, and observing their marked similarity to those in the cases of melanosis which have been recorded, and being satisfied with my differential diagnosis, I pronounced the disease to be melanosis.

Prognosis unfavorable.

Treatment. Supporting and palliative.

He remained in the city until April 11th, and then returned to his home in Greenville.

Before returning home I placed him on the following treatment:

℞. Pil. ferri carbonatis. grs. v. (5).

three times a day; also

℞. Granul. acid. arsenious, gr. $\frac{1}{10}$,

three times a day.

During his stay in the city, subsequent to the time I gave my diagnosis, he was seen by several of the physicians of the city. Among the number who saw him were Drs. W. H. Mussey, Williams, Ayres, Sattler, Clendenin, Carson, A. S. Dandridge, Mackenzie, Eichberg, and Hartwell.

Dr. S. C. Ayres has very kindly furnished me with the following records of the case while under his charge:

"S. H. Robison, æt. 27, was first examined March 11th, 1882. His vision was very imperfect, being barely equal to seeing shadows of the hand with the right eye, and counting fingers at 4′ with the left. An inspection with the ophthalmoscope revealed extensive detachment of the retina in both eyes. In the right eye the retina came very far forward below and on each side so as to obscure the optic disc. In the left eye the detachment was not quite so extensive. The retina was still quite clear in both eyes, showing that this condition was probably recent. He said that the left eye failed first about three months ago, and the right in about two months later. He states that he had worked in a lumber mill, and had done heavy work, hoisting boards through a hatchway. It taxed his strength to lift the load, and then he had to watch and see when he had it up far enough. In this way there was a constant strain on his eyes as well as on his strength. Before engaging in this work his eyes were always good, and he was not near-sighted. He seemed somewhat broken in health and depressed on account of his loss of sight.

He was placed on the hypodermic use of pilocarpine, beginning with 1/12 gr, and running up to 1/6 gr. He bore the treatment very well, and was not depressed by its effects. It did not cause much sweating, but excited profuse salivation. His vision was markedly improved within the first few days.

March 14th. After two injections he counted fingers at 10′, left eye.

March 17th. After four injections he counted fingers at 14′, left eye, and 3′ right eye. During the second week of treatment he improved slightly, but during the third and fourth weeks he remained stationary. In two weeks after admission I noticed that his skin had a peculiar color resembling that which comes from the internal use of nitrate of silver.

March 15th. He complained of some difficulty in micturition and asked me to look at the urine, which he had passed that morning. Judging from its color I should say it was half blood. He said that before he came down his friends at home noticed the same condition. His sight was so imperfect that he could not see the color of his urine, and was consequently unaware of anything abnormal in it. As he had formerly been under the care of Drs. Mussey and Falls, I thought it better to ask Dr. Falls to see him. During the rest of his stay in the hospital his skin grew perceptibly darker and darker. He soon presented a cyanosed appearance as if the blood was imperfectly aerated, but gradually the pigment in the skin became more pronounced, and was as dark as that of a mullatto before he left.

For the subsequent history of the case, I am greatly indebted to Dr. L. G. Lecklider, of Greenville, Ohio, Mr. Robison's home physician. He corresponded with me and kept me informed of the progress of the disease; and very faithfully attended the case to its termination.

Under April 20th, 1882, he made the following notes. The discoloration of the skin has gradually passed over the trunk and extremeties and the entire body now presents a dark brownish color. The parts exposed to the light viz, the head, face, neck and hands are much darker than the other parts of the body.

Temperature 98⅓. Pulse 70. Appetite fair. Urine is still of a blackish brown color. On account of sleeplessness at night he was given

℞—Ext. Piscidia. Erythrinæ. Fl. ʒi.
At bedtime.

During the month of May no important changes in his condition occurred, except that the integument has become much darker and is becoming more so every day. His general health is about the same as during the past month. Has occasional attacks of headache which are relieved by

℞—Quiniæ Sulphas, grs. ij. (2) every three hours.

On June 1st, 1882, I visited Greenville, and saw the patient in consultation with Dr. Lecklider, and was surprised to see the marked change in his appearance. The ashen hue of the skin and mucous membranes noticed in April has now become of a chocolate brown color, and the skin is almost as dark as that of the negro.

The finger and toe nails are dark gray in color and the mucous membrane of the urethra presents a brownish tint. Vision is almost entirely gone. Can distinguish between day and night, but nothing more. Passes daily about two and a half pints of dark brown urine.

June 10th, 1882. No marked changes, continues about the same. Has exhausted his supply of pills ordered on April 11th and was now ordered

℞—Pil. Quiniæ Sulphas. grs. ij. (2) every three hours.

June 27th. Has complained of headache for several days, also some pain in upper part of the abdomen. This evening ate a very heavy supper at six o'clock, and at eight o'clock was seized with a convulsion, which continued for about three minutes followed by unconsciousness lasting about twenty minutes. Half an hour after regaining consciousness he had a second convulsion followed by the same unconscious state as after the first one.

Pulse 75. Temperature 98⅓° F.

Was given ℞—Potass. Bromid. grs. xx. Every three hours, and

℞—Morphiæ Sulphas	gr. ¼
Quiniæ Sulphas	grs. ij.

Every three hours. To be given during the night. The medicines alternating every hour and a half.

June 28th A.M. Rested well during the night. This morning is quite feeble but in other respects no change. No impairment of mental faculties and no headache.

Pulse 72. Temperature normal.

To continue potass. bromid. every six hours and to have quiniæ sulphas grs. ii every three hours.

July 1st. No change. Discontinued potass. bromid. but quiniæ sulphas to be continued.

July 6th. Visited Greenville this afternoon and saw the case with Dr. Lecklider. Patient has been confined to his bed most of the time since the twenty-sixth of June. Has had no return of the convulsions. Pulse 80. Temp. 98° F.

Vision entirely gone and he recognized me by voice. The skin and the mucous membrane are now of a deep blackish brown color. The nodules are more numerous, and those which were present early in the disease have increased in size. The new ones vary in size from that of a granule to a small hazel-nut.

Urine is still of the same brownish black color.

July 12th. Has now regained sufficient strength to allow him to be around the house and to take a short walk out of doors.

August 5th. This morning about 10 o'clock he had another convulsion similar to those on June 26th. Previous to the convulsion had complained of some headache. Treatment the same as for the previous convulsions.

August 12th. Diarrhœa attended with some pain. Stools thin and of a dark brown color. It was controlled by powders of opium and camphor.

August 26th. About noon to-day was seized with a convulsion. Previous to the convulsion complained of frontal headache and pain in his bowels. Same treatment as for previous attacks.

September 9th. Intense feebleness. Has attacks occasionally of nausea and hiccough. At times has frontal headache. Slight œdema of feet and legs. Body presents a shruken appearance and the color daily becoming much darker. Allowed milk and lime water to relieve nausea, and to have brandy as required. To continue quiniæ sulphas.

September 14th. Condition about the same. Has paroxysmal attacks of lancinating pain in his head. Slightly delirious during the night. Pulse 80. Temp. 98° F.

September 15th. Unchanged. Treatment continued.

September 16th. At 4 P.M. to-day had a convulsion, continuing for five minutes, unconscious about twenty minutes. During the convulsion the left side of the body was more affected than the right. Pulse 82. Temp. $98\frac{7}{10}$° F.

September 17th. Some difficulty in deglutition. Very restless and refuses to take everything but the milk and lime water. A very unpleasant odor emanates from his body. Pulse 80. Respiration 16. Temp. $99\frac{8}{10}$° F.

September 18th. Pulse feeble and slow. Skin cool and moist. Passes urine involuntarily. Right upper and lower extremities are paralyzed. Deglution very difficult. Indifferent as to what is said or done to him.

September 19th. Unable to swallow since midnight. Pulse imperceptible. Comatose.

Died this morning at 11 o'clock.

Having been notified of his death, I made arrangements for the post-mortem examination, and on the following day I went to Greenville for that purpose. Dr. F. W. Langdon of this city, at my request, accompanied me; and we made the examination in the presence of the following physicians: Drs. L. G. Lecklider, J. E. Matchett, O. E. Lucas, Hall, S. H. Jobes, Gard, Miesz, Burnett, Lynch, F. Matchett, Stiles, W. Matchett Hostetter, all of Greenville; also Drs. Hooven and Anderson of Ansonia; Dr. Campbell, of Gettysburg, Drs. C. C. Later and Calderwood, of Palestine; Drs. Williamson and Fackler, of Versailles; Minser, of Webster; Robeson and Brumbaugh, of Arcanum; Berry, of Spartansburg; Chenoweth, of Winchester, Ind.; Ruby, of Union City, Ind.: Drs. Gray, Smith and Ashton, of Piqua; Dr. Beech, of West Jefferson; Drs. Hibberd, Driggins and Ballard, of Richmond, Ind.; and Messrs. C. W. Roland, George Frybarger and Rev. Crawford, of Greenville.

Report of necropsy held September 20, 1882, *beginning at* 4 *o'clock p.m.*

TIME: Twenty-nine hours after death.

EXTERNAL APPEARANCES.

Rigor mortis almost absent.

Subject, male; age, twenty-eight years; height, five feet, six inches; fairly developed, somewhat emaciated; anterior surface of trunk, upper extremities and face covered with globules of sweat. Hair short, wavy, dark-brown, sprinkled with gray; a short sandy-red mustache; no beard. Hair over pubic region dark-brown. Scleræ brownish-yellow, irides yellowish gray.

Entire cutaneous surface of trunk and extremities of a grayish chocolate-brown color, lightest on the feet and lower extremities; the tint gradually increasing in depth toward the head; the color solid and uniformly distributed, without mottling anywhere. Face, neck, dorsum of hands, and scrotum of a decidedly dark chocolate-brown tint, much darker than remaining portions of the surface; feet and palmar surfaces of hands ashy-brown; finger-nails dark bluish-gray; toe-nails of a lighter shade of the same color.

Mucous membrane of mouth and pharynx dark ashy-brown.

The entire cutaneous surface, from the scalp to the lower third of legs, irregularly studded with numerous projections, due to subcutaneous nodules, varying from the size of a pea to that of a filbert; the smaller ones being chiefly situated on the extremities, scalp, and eyelids. These nodules were most thickly distributed over the flexor surfaces of the extremities and on the anterior surface of the trunk; they were probably about one hundred in number on the arms alone. On the lower extremities the nodules gradually increased in size from below upward; on the upper extremities they were more uniform in size than elsewhere, averaging about the size of a large pea. The right upper eyelid presented two nodules, one the size of a pea, the other about one-fifth as large; the left upper eyelid contained two very small ones, about the size of a pinhead; another, nearly as large as a pea, was situated at the inner and upper angle of the left orbit.

The skin overlying the nodules heretofore described was freely movable.

The anterior abdominal wall was the seat of eight or ten nodules, which differed considerably in shape from those found elsewhere, being decidedly flattened or nummular in form and varying from a half-inch to an inch in diameter; the skin over these flattened nodules was more or less adherent, so that it did not slip over them with the same freedom as elsewhere.

The *glans penis* presented four small globular nodules, two on its superior surface and one on either side of the frænum; the sheath of the organ was also the seat of a few small nodules. The integument of the scrotum contained about a dozen nodules as large as a pea.

The body presented five cicatrices distributed as follows: (1) Overlying the sterno-clavicular end of the sterno-mastoid muscle, a slightly puckered cicatrix, half-an-inch in length, directed in the line of the muscle; (2 and 3) Overlying each sterno-clavicular articulation is a similar cicatrix also about half-an-inch long; (4) At the inner border of the left scapula, beginning an inch and a half above the angle, is an irregular, puckered cicatrix, about an inch in length, directed vertically. (These cicatrices occupied the sites of three congenital nævi removed by Dr. W. H. Mussey at the Cincinnati Hospital, in January, 1882.) (5) Upon the anterior surface of the middle third of the right arm was a linear cicatrix, directed vertically, and about one and one-fourth inches in length; (this occupied the former site of one of the subcutaneous nodules removed by me on April 10th, 1882, for microscopical purposes).

The integument overlying and immediately surrounding all these cicatrices was more deeply pigmented than elsewhere.

The axillary and popliteal lymphatic glands were distinctly enlarged, the left axilla containing a nodule as large as an English walnut; the post-cervical and inguinal glands were but slightly prominent.

INTERNAL EXAMINATION.

CRANIUM: On dividing the tissues of the scalp transversely, in the usual manner, they were found studded at various points with black, glistening nodules, of the consistency of tallow, varying from the size of a pin-head to that of a pea; these were especially numerous between the scalp proper and the pericranium. Between the pericranium and the bone and also infiltrating the bone itself, were numerous irregular black pigmented areas, inappreciable in thickness, the smallest being mere specks, the largest an inch or more in greatest diameter; corresponding to these black-pigmented areas the bone was stained internally of a deep reddish-brown color.

The external surface of the dura mater, corresponding to these black and brown areas, was thickly studded with small, black glistening nodules, the size of a pin-head and smaller, aggregated into irregular areas, corresponding to those described on the calvarium, and chiefly distributed around and in the neighborhood of the ramifications of the middle meningeal artery; these aggregations of pigment were larger and more extensively distributed over the right than over the left half of the dura. The internal surface of the dura mater was the seat of similar areas of pigmented miliary nodules, corresponding in situation to those on the external surface of the membrane. A few small nodules were scattered over the inner surface of the dura mater covering the base of the skull.

BRAIN: Surface of both hemispheres studded throughout with numerous more or less spherical masses of black pigment[1], putty-like in consistency, varying from the size of a millet seed to that of a filbert; these were situated both in and between the convolutions and projected slightly above the surface. They were slightly connected with the pia mater but so loosely attached were they that the larger ones almost fell out of their matrix by their own weight. The choroid plexuses of both lateral ventricles were exceedingly dark in color being apparently infiltrated with the same pigment as that composing the melanic masses.

The right lobe of the cerebellum was the seat of one of the pigment masses which fell out of its matrix, leaving a cavity large enough to contain a pigeon's egg; a few masses the size of a pea and smaller were scattered over the lower surface of the same lobe.

These melanic masses everywhere in the brain were sharply defined, *not* shading off gradually into the surrounding matrix. On section they were found to be homogeneous in structure and generally dull black throughout; some of them however, presenting a central nucleus of a dark red color.

EYE.—The right eye was retained for examination at a later time, when the following appearances were observed.

GLOBE much shrunken, and flattened antro-posteriorly, having been in alcohol for twenty-seven days.

SCLEROTICA light brownish yellow in color.

IRIS—yellowish gray.

On section the anterior and posterior chambers were found filled with a brownish-white, homogeneous substance of the consistency of old cheese, (coagulated vitreous.)

CRYSTALLINE LENS dislocated downwards and outwards, being imbedded in the coagulated vitreous above referred to; color of lens chalky white; (due in part at least, to the alcohol).

CHOROID black in color; much thickened, especially at inner and upper quadrant, where it measured three and one-half millimetres in thickness; from this point it gradually diminished in thickness in all directions, lining the anterior half of the globe appeared on section as a fine black line.

SPINAL CORD not examined.

TRUNK: Upon reflecting the integument from the front of the thorax and abdomen, the subcutaneous adipose was observed to be very slight in amount and of a deep yellowish color. The underlying muscles were of a much darker hue than normal, the tint resembling that of the heart muscle in the condition known as "brown atrophy." Scattered throughout the subcutaneous and intermuscular conective tissues and also invading the muscular tissue itself, were numerous small, dark-brown and black, glistening, tarry-looking nodules, more or less spherical in form, ranging from the size of a pin-head to that of a large pea. These nodules were much firmer in consistency than those found in the brain, preserving their globular form even under considerable pressure. They corresponded in situation to the projections of the skin described under the head of external appearances.

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[1] The gross appearances of these pigmented nodules correspond precisely with those described as "melanic masses" by Cornil and Ranvier. (Pathological Histology, Phil. ed. 1880, pp. 189-190.) Microscopical examination, however, shows them to be cellular in structure, the pigment being contained in the cells as described in Professor Eichberg's report.

In addition to these more or less globular masses, there were several flattened masses and stratiform collections of melanic matter, the latter situated chiefly in the sub-peritoneal connective tissue.

THORAX: The ribs presented a few blackish pigmented areas similar to those described in the calvarium, and corresponding to sub-periosteal deposits of pigment.

Upon opening the thorax, the right pleural cavity was found to contain about two ounces of a reddish-brown serous fluid.

THE PERICARDIUM was darker in color than normal and its cavity contained about an ounce of a reddish-brown serous fluid.

HEART: Normal in size and position, darkened in color, its walls relaxed and flabby in consistency; sub-pericardial adipose almost entirely absent. Right auricle distended by a soft, yellowish fibrinous clot; right ventricle contained a similar clot, smaller in size; left cavities empty. Heart walls about normal in thickness.

The myocardium, the valvular endocardium, and the tunica intima of the great vessels were of a dark yellowish-brown color, darkest in the lining of the pulmonary artery; base of aorta studded with light yellowish atheromatous patches in strong contrast with the dark yellowish-brown color of the intima. No valvular lesion excepting opacity due to the discoloration above referred to.

LUNGS: Left lung firmly adherent everywhere by old pleuritic adhesions; the organ small, firm, and but slightly crepitant — (carnified lung.) Right lung free from adhesions and otherwise normal excepting slight hypostatic congestion and a calcareous nodule about the size of a pea, situated in the centre of the base of the lower lobe. No evident increase of pigmentation on section. Tracheal and bronchial mucus membrane, brownish-yellow in color.

Bronchial lymphatic glands slightly enlarged and infiltrated throughout with a blackish, tarry-looking deposit similar to that in the subcutaneous nodules and brain.

ŒSOPHAGUS: Muscular substance dark brown in color; mucous membrane light grayish.

ABDOMEN: The peritoneal cavity contained about an ounce of reddish-brown serous fluid.

The greater omentum contained but a slight amount of adipose; presented a brownish discoloration, especially marked along the course of the bloodvessels, and was studded throughout with glistening dark-brown and black nodules, miliary and smaller in size.

The intestines were of a dark gray color externally, contracted in calibre, and displaced downward into the hypogastrium and pelvis; being almost concealed by a blackish, nodulated, tarry-looking mass, which upon examination proved to be the liver, extending considerally below the umbilicus; transversely, the liver occupied nearly the entire width of the abdominal cavity.

SPLEEN much enlarged, black in color; its capsule tense and glistening. Dimensions: length, ten and one-half inches; breadth, six inches; thickness (near upper extremity), three and one-half inches; weight, three and one-half pounds avoirdupois.

The organ presented the appearance of a mass of black nodules ranging from the size of a filbert to that of a walnut; the nodular appearance being especially marked at the anterior border and internal surface of the organ. The external surface presented about a dozen flattened, slightly projecting circular nodules, varying from half an inch to an inch and a quarter in diameter.

On section, the tissue of the organ was found to be increased in consistency, somewhat friable and of a very dark brown, almost tar color. It was apparently entirely composed of more or less spherical nodes, varying from the size of a filbert to that of a walnut.

KIDNEYS, normal in size, flabby in consistency, deep brown in color. Capsule somewhat adherent, carrying away with it when detached, a thin layer of cortex.

On section, the cortical substance was found about normal in amount, of a dark chocolate-brown color, and finely mottled throughout with black points and streaks; the direction of the streaks being from the periphery of the organ towards the base of the pyramids.

The pyramids were plainly mapped out by their dark bluish-black tint, increasing in depth toward the papillæ, which were of a tarry black color.

SUPRA-RENAL CAPSULES normal in size, brownish-yellow in color.

URINARY BLADDER not examined.

GENERATIVE ORGANS apparently normal in development. Both testes filled with black nodules about the size of peas and similar in consistence to those in the subcutaneous tissues. (Nodules on penis and scrotum noted under external appearances.)

STOMACH, moderately distended by a blackish grumous fluid of the consistency of thin syrup. The mucous membrane of the organ was of a dark yellowish-gray color, marbled near the cardiac extremity with fine black lines.

GALL-BLADDER moderately distended by a dark, tarry-looking liquid of the consistency of thin syrup.

LIVER very much enlarged, blackish-brown in color; surface glistening and covered with flattened circular nodules throughout; the nodules varying from a quarter of an inch to one and one-half inches in diameter. Dimensions: greatest length, thirteen inches; breadth, ten inches; thickness four inches; weight, nine pounds, avoirdupois.

On section the tissue of the organ was found somewhat friable and apparently entirely composed of blackish-brown globular nodules, similar to those found in the spleen, varying from the size of a filbert to that of a walnut.

THE PANCREAS was normal in size, presented on section a yellowish gray color, and was studded with fine dark points.

SMALL INTESTINES contracted in calibre, dark gray in color externally. Contents: grayish mucus only. Mucous membrane throughout of a dark grayish-brown color. No appreciable alteration in the solitary follicles and peyerian patches, other than the discoloration referred to.

Vermiform Appendix considerably swollen, its distal extremity being dilated in the form of an oblong cyst about one inch in length, and half an inch in diameter, filled with a clear, brownish, gelatinous substance.

Large Intestine contained a moderate quantity of semi-fluid fæces, dark bluish-gray in color. Mucous membrane dark grayish-brown.

Rectum filled with pultaceous fæces of a dark bluish-gray color.

Mesenteric Glands enlarged, varying from the size of a pea to that of a filbert, and filled with black pigment of the consistency of putty.

Retro-peritoneal Lymphatic Glands, likewise enlarged and filled with black pigment.

MICROSCOPICAL EXAMINATION.

On April 11th, 1882, I removed one of the subcutaneous nodules from the right arm, and gave it to Prof. Joseph Eichberg, Pathologist to the Cincinnati Hospital, for microscopical examination, the following is his report:

"The nodule is situated in the subcutaneous cellular tissue, which is thickened and condensed around it, though not forming a distinct capsule completely around the growth.

Microscopically the nodule measures in length one-half inch and is one-third of an inch deep at the widest part. It presents a uniform dark brownish black color, and to the naked eye appears to be perfectly circumscribed.

On microscopical examination with a low power the tumor presents an almost characteristic alveolar appearance, such as is found in carcinoma, with several bands of spindle cells traversing it in different directions.

The cells are nearly all more or less deeply pigmented, the pigment being deposited in the form of fine granules in the protoplasm of the cells, but not in the nucleus; (this with Hartnack Ocular No. 3, obj. No. 4.)

The surrounding connective tissue presents the appearance of œdematous infiltration into which small groups of cells from the nodule extend in different directions, usually maintaining their connection with the main part of the growth.

With obj. 8 and ocular 3 Hartnack, the structure of the growth becomes more apparent, the staining fluid, Hæmatoxylin, aiding materially in the recognition of individual cells, staining the nuclei of a dark violet color, and not affecting the protoplasm of the cell.

The alveolar arrangement recognized by the low power now becomes clearly evident, the cells of which the alveoli are composed being irregular in shape, with large prominent nucleus and nucleoli; many of them contain several nuclei, and all are of the epithelial type. Bands of spindle cells are found in one or two places between the alveoli, the spindle cells containing no pigment. A small round celled infiltration surrounds some of the larger bloodvessels in relation with the growth.

The length of the larger cells is thirty micro-millimeters, the nucleus measuring six micro-millimeters. (1 micro-millimeter=$\frac{1}{1000000}$ of a meter or $\frac{1}{25000}$ of an inch.

The growth belongs to the class of what are commonly known as melanotic tumors called by Rindfleisch sarcoma carcinomatodes, and by Bilroth an alveolar sarcoma. From its situation, and the character of its cells it is undoubtedly a suderifarous gland that has taken on the diseased action. This will explain in part the epithlial type of cells so marked in this nodule."

I presented Professor Eichberg with sections of the various specimens obtained at the post-mortem examination, and requested him to examine them microscopically. As the result of his labors he has given me the following very able and interesting report.

"**The Spleen**: On microscropic examination of the section the spleen presents an appearance of distinct nodules deposited in tissue of a uniformly brown color; these nodules vary in size from the most minute deposit to the size of a filbert. They seem to be distinctly encapsuled and their boundaries can be recognized by the naked eye, they being much darker than the surrounding tissue. The microscope shows the dark discoloration to be due to a deposit of pigment, which is so dense in places as to render the tissue completely black and opaque. It is seen that the increase in size of the spleen is due partially to the nodular deposit, partially also to a very extensive and general increase of the stroma; the increase of the stroma being mainly due to the development of a large number of spindle shaped cells with very large spherical nuclei, resembling in every particular the normal spindle shaped connective tissue cells found in the stroma, save that their protoplasm contains large deposits of a brownish granular pigment. The fibres of the connective tissue are also increased, and this increase is most marked in the thickened capsule and around the arteries. In the broad band of fibrous tissue constituting the capsule are seen large numbers of these spindled shaped cells, which alone contain the pigment, the fibrous tissue being singularly free of all deposit. The only traces of normal tissue, as shown by the hematoxylin staining occur in the immediate vicinity of the large arteries and constitute small islands of a diameter of 40 micromillimeters. In other places the tissue seems somewhat similar to that normally found, but the cells are stained a mahogany color; this staining is not due to pigmentary deposit, but is rather such a staining as would be occasioned by imbibition of fluid. Whether these cells are of new formation or are the original cells altered by the diseased process it is impossible to say. The nodules present in places the same alveolar arrangement that characterized the subcutaneous tumor, the alveoli consisting of a varying number of large cells closely packed together, and richly charged with pigment. The cells here are more uniform in size than those found in subcutaneous nodule, are not quite so large, but still preserve the epithelial type, and contain large, well-defined nuclei where the nuclei are not obscured by the granular deposit. Numerous bands of parallel fibres and of the spindle cells already described pass through the nodules, separating groups of alveoli from each other; the spindle cells always carrying pigment. The normal bands of unstriped muscular fibres and connective tissue are partially preserved and comparatively free from pigment.

The large nucleated cells are found isolated and in small groups outside of the nodule, lying in the midst of brown colored cells and stroma, some being more others less deeply pigmented. No sign of malpighian tufts in any of the sections made.

(The sections were all obtained from one portion of the spleen, about ½ inch cube in bulk.)

"**Lymphatic Gland**: Very little normal tissue is to be found in a section of the lymphatic gland. As in the spleen nodules of dark color are found in a uniform brown tissue, the capsule is thickened and shows an increase of fibrous tissue, with development of numerous spindle shaped cells, in which the pigment is deposited. In the nodules are recognized large cells, round or polygonal in outline with distinct nucleus, occasionally grouped in alveoli. The walls of the blood vessels are thickened but the connective tissue surrounding them is devoid of pigment. Many lymphoid cells have a transparent brown staining as in the spleen. It is noticeable that the pigment cells and the nodules are most abundant beneath the capsule the inner surface of which shows a great increase of white fibres. Some pigment is deposited free in the connective tissue, forming fine spherical granules.

"**Kidney** is comparatively free; on microscopic examination of the section, dark striæ are seen to traverse the section in the direction of the collecting tubes of the pyramidal substance. With the microscope the tubes are seen to be almost the only seat of deposit, the pigment forming in the granular masses such as were observed in the microscopical examination of the urine. In a few tubes are found brownish-black homogeneous casts. Only a few of the tubes are affected, the majority remaining free. In the cortex the pigment is deposited in the form of fine granules scattered irregularly through the connective tissue; the malpighian tufts are free, the walls of the arteries thickened, and the connective tissue increased as in other organs. A few large pigment cells are found in the cortex but no trace of alveoli.

The Eye. Microscopically a large tumor is seen springing from the posterior part of the eye and apparently circumscribed. The tumor is broadest at its base, which follows distinctly the normal curvature; at this point it measures ⅝ inches; its thickness being ⅛ inch. With the low power of the microscope (Hartnack oc. 2, obj. 4) the same decided alveolar structure is recognized the cells here, however, are much more deeply pigmented than in any other tissue save the spleen; the tumor is circumscribed, being occasioned by a new development limited exclusively to the choroid coat, which in parts distant from the tumor presents a normal appearance. The sclera is normal and not invaded by the new growth. The interior of the eye is filled by a mass of coagulated albumen, enclosing a few indistinct fusiform cells. In portions of the tumor which have been penciled a very fine meshed net-work of connective tissue is easily recognized, the meshes being large enough to enclose a single cell. The pigment is found almost exclusively in the cells which are most deeply pigmented in the layers nearest the sclera. The cells present very much the same appearance as those found in other organs, both as to size and outline.

The nodule from the brain is distinctly encapsulated, as shown by the way in which it may be shelled out of its bed in the nervous tissue. It is softer in consistence than the nodules found in other organs, even after careful hardening. Its structure is essentially the same as that already described for the various nodules, the capsule being made up of bands of pigmented spindle shaped cells with some white fibres, the interior being constituted by alveoli of cells with a large number of cells lying closely together but without any definite arrangement. In this nodule too are found areas in which no definite structure can be recognized, in which there is a fine granular material with irregular deposits of free pigment.

The Liver presented microscopically a uniform brown staining with circumscribed nodules of dark black color. In these nodules there were found pigmented cells and newly formed connective tissue as in other parts. By washing the section a great many of the cells were dislodged from the alveoli, showing very closely the newly formed connective tissue. The portions of liver tissue which retained the normal cells were obscured. The staining like that already described in the spleen was more of the character of a uniform imbibition.

Skin. A portion of skin obtained after death shows a deposit of granular pigment in the connective tissue of the cutes vera following exactly the course of the vessels. It is doubtless owing to this that the gradually deepening discoloration was due. In summing up all the organs, it seems clear that we have to deal with a case of multiple melanotic sarcomata, whose microscropic structure still shows an alveolar stroma. It is to be regretted that the lungs could not be subjected to examination along with the organs. With reference to the primary growth, supposing that all the nodules are of not common origin this was probably developed in the choroid, which fact would help to explain the melanotic character of the secondary growths, it being a not uncommon occurrence, that malignant growths arising in tissues normally containing pigment retain this pigmentary deposit in their secondary formations. From the arrangement of spindle cells the nodules should be classed as sarcomata despite the alveolar character observed in all of them. The mode of deposit in the kidney seems to be associated with the excretory function of that organ, the material being separated not in the tufts, but by the epithelial cells of the tubes.

The great preponderance of pigment in the nodules with the immunity of the surrounding tissues would seem to point to a selected power of the cells of the new formations for this granular matter. That there must have been at the same time disorganization of the blood is shown very clearly by the urine which remained of a uniform brownish black color even after the sediment it contained had deposited on the floor of the vessel, but I venture to advance the hypothesis that the changes in this fluid were largely due to resorption of pigment from broken down cells of the new formations; the breaking down of the cell allowing the pigment to become free and to enter the newly formed blood-vessels, whose walls, as in sarcomata generally, were formed by these very cells; and as already stated, the deposit of these granules in the kidney, where the epithelium of the excretory tubules seems almost the only part affected would serve to show the presence of free granular matter in the blood. Why the blood of such new growths should have this peculiar affinity for pigment is as difficult a question as why there should ever be any development of sarcomata at all, but that such affinity exists is proven beyond doubt, and borne out by the specimens obtained from this patient. The fact that the first specimen of skin removed during life has no deposit of pigment in the cellular tissue like that obtained post-mortem would be further confirmatory evidence of this theory, the deposit of pigment increasing with the age and retrograde processes in the various nodules."

The following pathological specimens obtained from this case were exhibited to the members of the society and the medical profession who were present. The brain, with the melanic tumors and dura mater, liver, spleen, kidneys, testicle, bronchial and mesenteric glands, and portions of the integument with subcutaneous nodules.

The author has since presented these specimens to the Miami Medical College of this city, and where those who desire can see them in the Museum of the College.

DESCRIPTION OF PLATES.

Figure I. From a photograph of Mr. Robison, taken one year before the appearance of the disease.

Figure II. Represents the appearance of the patient on August 1st, 1882, or about four months after the commencement of the discoloration of the skin.

Figure III. Shows the aspect presented by the case about three months after the beginning of the change in the color of integument.

Several of the subcutaneous nodules are exhibited in this figure, but the number which are seen is very small in comparison to the large number which were present. On account of their being situated in the subcutaneous tissue, only the larger nodules are seen in the engraving.

Figure IV. From a drawing executed by Prof. Joseph Eichberg. Section of spleen obtained from a portion of the nodule in which the alveolar arrangement is tolerably well marked. The section has not been stained. The section has been magnified 300 diameters.

MENINGITIS FROM SUPPURATION IN THE MIDDLE EAR.

By James M. French, M.A., M.D.

Physician to the Clinic for Diseases of Children,
Medical College of Ohio.

Sadie B., a plump and vigorous child, three years old, was seized with a convulsion, at noon, May 23d. I was called at about three o'clock in the afternoon. By this time the spasm had in a great measure subsided, and the child was sleeping more soundly than natural, but was almost free from convulsive movements. The face was flushed. The axillary temperature was 102.5°. I now obtained the following history:

No hereditary taint or predisposition to disease can be discovered. The child, with her twin brother, is the youngest of five births (six children in all, five of whom are alive). One child died in convulsions after two days of illness, the nature of which cannot now be determined. The patient is apparently of normal intellectual development, but has never talked. She has had none of the acute infectious maladies or other illness except a long persistent otorrhea, and two attacks of spasms. The first attack occurred when the child was one year old and was accompanied by vomiting. It came on at night and was confined to one side of the body. After this she was well for a year, and was again seized in the same way. This time the convulsion lasted five or six hours. Both these attacks followed close upon the ingestion of improper food and were doubtless correctly attributed by the physician then called to the irritation of the stomach thus produced. From this time until the present seizure, she has had excellent health, with the exception of the never-ceasing discharge from the ear. This began when she was but a few months old. The right ear was the first affected, and is still the worse. During all the time that this affliction has existed, almost no treatment has been employed. The mother, strictly credulous of every popular fallacy, fearing that a cessation of this discharge might lead to some more serious malady, contented herself with occasionally syringing the cavities with warm water. About one week previous to the present illness the child was placed in charge of Prof. W. W. Seely, through whose kindness I have since learned that both aural cavities are full of fungous growths, the result of a long-standing otitis media suppurativa. On account of the highly inflamed condition of these mucous membranes, the only treatment he had attempted was that of reducing the inflammation by the application of boracic acid.

On the morning of the Twenty-third previous to the convulsion the child appeared slightly ill and ate for breakfast only a piece of bread with a little coffee. She also went with reluctance to have her ears treated and cried all the way home. She had eaten nothing after breakfast. Upon physical examination I found nothing, aside from the diseased aural cavities and an eczematous condition about the external meatus, except an enlargement of the cervical lymphatic glands. General enlargement of the lymphatics was not present. With these facts I felt that I had but a single form of trouble upon which to rest my diagnosis; namely, an inflammation of the meninges, due in all probability to the long standing otitis.

At this time I prescribed a sedative, with cold applications to the head, also ordering an enema to free the bowels from any possible irritation.

At eight o'clock the same evening I was again summoned, the convulsions having reappeared. The movements of the child when I arrived were violent, the more so upon the left side of the body. The face twitched, the fists clenched, the arms and legs jerked and the muscles of the back contracted spasmodically, moving the entire body. The diaphragm was also affected somewhat, producing an irregularity of respiration and causing, now and then, a hissing sound on inspiration. The muscles of the eyes were convulsed, so that the orbits rolled toward the left side. The pupils were closely contracted. There was, in brief, a general clonic convulsion of the entire body. The axillary temperature had reached 103.8°.

Without delaying for farther examination, I proceeded to anesthetize the little patient, assisted by my student, Mr. J. R. Vincent. The etherization was pushed until the stage of stertorous respiration was reached, and then immediately discontinued. There were still slight convulsive movements of the hands, and the muscles of the face twitched feebly; and in not longer than fifteen minutes these movements became stronger, the artificial sleep began to pass off, the coma to step in, so that the convulsion was soon renewed with almost as great severity as before. The anesthetic was immediately administered and this time pushed until the breathing became loud and snoring so as to alarm the friends of the child. A luke-warm bath was now ordered. Before it was ready for use the convulsive movements, which had entirely vanished, began to return. The bath was made of a temperature of 93°. The child was allowed to remain in it twelve minutes, when its temperature had subsided to 100°. The twitchings of the muscles were now very feeble, and showed a tendency to abate rather than to become more severe.

May 24. In the morning, I found the child in a half reclining position in the bed, semi-conscious, and free from convulsion. For awhile it would lie quiet, then it would throw itself forward upon its face or to one side, screaming and tearing its hair, soon to fall back again into its former position.

The discharge from the ears had ceased and syringing brought out only a small flake of boracic acid. Firm pressure over the mastoid process gave no indication of causing pain. In the evening the child's condition was materially the same as in the morning. All day she had tossed about, crying, tearing her hair and scratching her face as though in great pain. The sedative mixture used during the day had apparently no effect. I now prescribed morphine in doses of one sixteenth of a grain, to be raised to an eighth of a grain if no effect were produced, and to be repeated with sufficient frequency to keep the child quiet or asleep.

In addition to all the bad symptoms, signs of exhaustion were beginning to appear, and I need hardly say that I gave a very gloomy prognosis.

May 25. The child passed a very restless night. The morphine was not given as freely as directed, and neither child nor parents got any sleep. Its actions this morning are much the same as yesterday, except, perhaps, milder in character, owing to exhaustion.

The pupils are now dilated about equally, a little beyond the normal size, and respond but feebly to the light. Sight, however, is entirely obliterated. She does not notice objects placed immediately before her eyes, even a glass of water is not observed, although she drinks eagerly if it touch her lips.

She cries piteously as if alone, when surrounded by her accustomed play-mates. The questions: "Can't you see?" and "Is it all dark?" are responded to by a renewal of the cry. Hearing does not seem to be, to any extent, affected. No convulsive movements have occurred since the 23d. The child's appetite is almost ravenous; she will eat whenever food touches her lips, and often sucks or even bites her own fingers. The voraciousness continued a pronounced symptom throughout the illness, but she is allowed only milk and once or twice daily a little soup.

May 26, a.m. The child rested but little better last night than previously, although the father, in his anxiety to relieve its suffering, administered a fourth grain of morphine at one dose, giving almost three-fourths during the night. It is still very fretful and acts strangely. The most careful tests fail to elicit any signs of vision. Fearing that the morphine might be to some extent responsible for the desire of the child to scratch its face, I substituted for it five grains of the bromide of potassium with half that quantity of chloral at a dose.

P.M.—At about three o'clock this afternoon the child had a convulsion. It was, however, less violent, and passed off more quickly than that three days ago, so that an anesthetic was not required. The child was left in apparently about the same condition as then, unconscious, with cyanotic face, contracted pupils, and stertorous breathing. There was, in addition to these symptoms, a decided tendency to opisthotonos, the body being distinctly bowed when lying upon the side, and the head occasionally tossing backward into the pillow.

May 27. The little patient gives evidence of more consciousness this morning, when awake, than ever before; but her face is still flushed, her pulse is tense and there is a considerable tendency to sopor. Toward evening these features increased to such a degree that, fearing a return of the convulsions, I applied a leech just back of the right ear. The child gave evidence of feeling the bite of the leech and attempted to knock it off, but slept during most of the time of its action. There was to-day no tendency to opisthotonos.

May 28. The child's condition this morning is much more favorable than yesterday; so marked is the improvement as to justify hopes for her recovery. Generally quiet and at the same time apparently free from pain, she is not so much inclined to sleep, and is withal more content. There is yet no return of vision.

May 29-30. The condition is that of slow improvement.

May 31 This morning the child directs its eyes toward a strong light, but the vision is very indistinct.

June 1. Vision is the same as yesterday. The discharge from the right ear has recommenced.

From this date on the improvement in the child's condition was general but gradual. Her ears, however, have been neglected so that they are now (Nov. 1st) in a worse condition than when I first saw them. The discharge from both ears is copious and exceedingly offensive, very often mixed with blood from the polypi. That they are painful is also manifest from the conduct of the child; for she watches every opportunity to place the ear against cool objects. Her hearing is not acute, yet it is not obliterated.

Now, what was this acute attack? It was not due to uremic poisoning, for the urine was voided in sufficient quantities throughout the disease, and when examined—several days after the sickness began, because until then it could not be collected—it contained no albumen. There was no motor paralysis, hence no arterial lesion.

The fever, the cessation of the otorrhea, the intense pain, and the blindness, especially the latter three symptoms; and above all, a slight atrophic change in the optic nerve, which has since been found upon opthalmoscopic examination by Prof. Seely; all these signs point toward the base of the brain.

The extension of an inflammation from the ear to the brain is not a frequent occurrence, yet a number of such cases have been observed. And, further, the primary disease may be not only in the middle ear, but even in the external portion.

Probably the most common association is that of a meningitis with an inflammation of the mastoid cells. But in this case we had neither the characteristic tenderness to pressure upon the mastoid nor the injury to the lateral sinus and its results which is usually found in such cases.

Taking into consideration, then, all the symptoms and the comparatively early and favorable recovery, I feel that I am justified in diagnosticating this a case of irritation of the meninges, or perhaps an acute meningitis, consequent upon suppuration in the middle ear.

Clinical Lectures.

GOOD SAMARITAN HOSPITAL.
SERVICE OF PROF. JAS. T. WHITTAKER.

[Reported by W. H. Wenning, M.D.]

Case 1.—Nodular Rheumatism.

Dr. Bartholomew, the house physician, will read us the history of this case.

Miss J. D——, æt 24; native born; single; by occupation a domestic. Family history good except that her grand mother was troubled with pain in the joints, nodular enlargements and deformity which began at about forty years of age, and lasted until death. Patient was perfectly healthy until about a year ago when the last joint of the middle finger of the right hand became stiff, red, painful and swelled, which condition lasted about a week, when the symptoms gradually disappeared. Then the right knee became affected in the same manner. In this way the different joints became affected, the fingers, wrist, and shoulders in slow succesion.

Soon the toes, ankles and knees were attacked as well as the vertebræ and jaws. Since last May the patient has not been able to wear her shoes on account of swelling and deformity in her feet and ankles. She states that about three weeks ago she observed that her left wrist was slightly deformed.

She will not admit that at any time she has had fever, sweating, or any marked constitutional disturbance.

At present both wrists are swelled and deformed as well as the ankles.

The little fingers of each hand are flexed almost to a right angle and the middle fingers are deflected to the ulnar side.

Gentlemen:—

You have just heard the history of this patient. You observe that there is a doughy sensation about the wrist and the first phalanges being an evidence of some effusion into the joints. The same condition is present in the feet, knees and shoulders. You observe that the patient walks with difficulty. Is this is a case of acute articular rheumatism? No. It is a different disease entirely a nodular rheumatism, an arthritis deformans marked by the formation of nodules, hence, called nodular rheumatism. As a great many or all of the joints are implicated it is also denominated polyarthritis. From the history just given you have heard that this patient never had fever, never had profuse sweating, never had palpitation of the heart or other complication of rheumatism. It is therefore safe to exclude ordinary articular rheumatism. The disease is hereditary as her grandmother was also thus affected. Like her, this patient was first attacked with these nodular swellings in the smaller joints of the fingers. It is characteristic of this form of rheumatism at this age that it is centripetal, the larger joints being later affected. Gout also attacks the smaller joints but preferably those of the lower extremities. But then gout more commonly affects the male than the female. Gout generally has a sudden onset mostly in the night, and is attended with high fever and preceded by disturbance of digestion.

Chronic rheumatism generally attacks one joint as also does gonorrheal rheumatism. Consequently we may exclude all these affections, acute, articular, chronic, and gonorrhœal rheumatism and regard it as a case of nodular rheumatism. If further evidence were needed the utter failure of salicylic acid in this case is an additional proof. Nodular rheumatism appears more frequently in females than males and generally at the beginning and cessation of the menses. It is especially common among the poor that work hard, arthritis pauperum it is sometimes called. As you see all these points agree in the case of the patient before you. This disease has always existed, but has only comparatively recently been particularly studied. Chiaje dug up skeletons at Pompeii with the characteristic deformities. The nodules are different from those of gout, as they consist of bone whereas in the latter affection they are chalk forming the so-called tophi; nodular rheumatism attaks young and old people. In the young it affects principally the peripheral joints as they are most commonly exposed. In this patient the wrist is the seat of the disease indicating that her principal occupation is laundry-work. In old people there is a special preference for the hip joint as well as the spinal column. Spondylitis deformans it used to be called. You may see such patients frequently walking the streets in a stooped posture. Acute articular rheumatism is in all probability a parasitic disease. We can safely assert here that parasites have nothing to do with the formation of these nodes. As you observe the disease is quite symmetrical which excites the suspicion that it is due to some derangement in the nervous system. It is probably an affection of the spinal cord. A rheumatic myelitis, it was called by Remak. Often it comes on after some debilitating influence upon the nervous system, as fright, grief, mental distress, etc. It is often preceded by megrim and neuralgias. It generally comes on in the middle finger first, as in this case, or the metacarpal ends of the first phalanges of the middle and index fingers. The swelling is dry, arthritis is another name for it, the ends of the bone become frequently eburnated, and sometimes the joints become partially dislocated. The deformity that ensues becomes very great so that the hands have been compared to birds' claws. The thumb and little finger, especially the former are usually free, so that the patient still retains much of the use of his hand. Sydenham says the hands look as if the joints were turned over. Trosseau likens the fingers to peapods. These statements indicate the character and amount of the deformity.

In the course of the disease the pain becomes worse and worse for a time, then disappears, but the soreness continues, the swelling increases, and the joints become more and more deformed. There is no fever from beginning to end, no valvular lesion of the heart. Endocarditis is never present unless caused by some old attack of inflammatory rheumatism, but we do sometimes find pericarditis. On the surface of the joints there is very little fluid, the change is in the cartilage, a proliferation, flattening and fraying out, when they scrape against each other; sometimes we catch a crepitus. The nodosities are at the upper end of the epiphyses. As a rule this arthritis does not, like chronic rheumatism, produce ankylosis. When the diagnosis is difficult as in young persons, the failure of salicylic acid will prove the character of the disease.

The prognosis is unfavorable as regards cure though life is usually not at all endangered. Haygarth wrote his classic description of the disease from a patient aged ninety-three. This patient looks well but will never get entirely well of the disease. She may live to be 60, 70, and even 80 years of age, but she will still be subject to this affection, unless our therapy will in the meantime have been enriched. The treatment then can only be directed toward relieving or mitigating the sufferings, If any permanent relief can be obtained it will probably come through address to the nervous system. Only one remedy can be said to be of any marked benefit as yet, and that is tincture of iodine, in ten drop doses three times a day. It may still better be combined with iodide of potassium as in the compound solution of iodine. Local applications of iodine may also be made to the joints. Also warm embrocations; best of all is a hot-bath. Mud-baths are occasionally very serviceable. To prevent the deformity from the springing up of nodules, passive exercise of the joints must be constantly practiced, as soon as the acute stage has passed off, exactly contrary to the treatment of the joints in articular rheumatism, where rest by the application of fixed bandages gives the greatest relief.

By keeping the joints moved the surface is lubricated, and as the soft structures are smoothed out deformity is limited or prevented. Look upon nodular rheumatism as an entirely different disease from either acute or chronic rheumatism or gout; gout is a lithiasis, a disease that belongs to chemistry, chronic rheumatism is a local affection purely, and articular rheumatism is probably a neurosis. It is only since we have come to study the arthropathies of locomotor ataxia, and other scleroses and neuroses, the hysterical joint, for instance, that we have had any clear light upon the pathogeny of this disease. But it is only lately that the affection of the joints have been studied much at all. Hulter said once that the joints have been treated with indifference like step-children.

CASE II.—DYSENTERY—IRRIGATION OF THE LARGE INTESTINE—CURE.

I take particular pride in showing you the next patient. This woman came into the house three weeks ago suffering with dysentery. She was profoundly prostrated; covered with a cold, clammy perspiration, and her voice was husky; in short, she was apparently in a moribund state. She passed large quanties of blood, had a colliquative diarrhœa. I brought her in before you anyhow to speak to you of the value of ippecac in the worst stage of dysentery. It was given here faithfully in large doses. Under the first dose she improved somewhat, but the remedy lost its effect apparently for it proved unsuccessful. She sank again with symptoms of imminent dissolution; we then concluded to give opium for a day to stimulate the brain and relieve her horrible pain. The sisters now had her shut off with the ominous curtains about the bed, and the priest was called in to anoint her. At this stage we concluded to irrigate the bowel. Injections of nitrate of silver (ʒss. to each pint of water) were thrown into the rectum according to the method of H. C. Wood, and the first injection of three pints held the disease in abeyance for two days. The dysentery returned, however, and then alum injections (ʒi to each pint) were administered with most beneficent effect. No recurrence of the attack since then has followed. The patient is now cured; she has but one natural operation a day. She is taking the fluid extract of eucalyptus for its tonic effect and is feeding on milk and animal food. Injections in this way are of modern use. Nitrate of silver has been especially thus recommended, but alum has the advantage of being less dangerous and less costly. The effect is possibly due to the flushing out of the bowel, by means of which the germs of the disease with the decomposing detritus of tissue are all carried away. Carbolic acid was recommended once for the same purpose, but is objectionable from the fact that where there is ulceration of the bowel carbolic acid poisoning may be set up. In its place, however, salicylic acid has been used being less dangerous, besides deodorizing the stools, which are generally indescribably offensive in dysentery. The large bowel holds six imperial pints; we succeeded in injecting only three pints and had to desist on account of pain; the injection is allowed to escape at once. In a case of acute epidemic dystenry, first, if possible, give large doses of epicac—twenty to thirty grains every four hours. If this should not quickly be followed by any benefit have recourse to these injections.

The patient though cured of the first attack is subject to relapses caused by errors in diet and change in weather.

Should symptoms of dysentery again appear we would give ipecac again, but in smaller doses—one-half to one grain every three or four hours alone, or with bismuth or soda, or both. Of course, a mild case of sporadic dysentery would call for nothing but light laxation. Remember only and always that even the most ancient authors knew and said that dysentery was a disease which constipates the bowels, and hence, always avoid astringents.

CASE III. — WRIST-DROP. — PARALYSIS FROM PRESSURE.

Gentlemen.—The patient before you I saw for the first time one week ago. He says he went to bed well, but when he awoke in the morning he felt as if his hand was asleep. You see when he raises his arm he cannot lift up his hand, whilst the other elevates perfectly well. You notice a complete paralysis of the extensors though not of the flexors of the right hand. As the extensors of only one hand seem to be affected, we are led to suspect that the affection is local; that this symptom is due to pressure exerted somewhere on the nerve that supplies this set of muscles, namely, the musculo-spiral. Last session, I presented here a young woman, who had the same affection caused by pressure on the arm from carrying a heavy basket. In this case the patient has lain on his arm in sleep. You know how we all experience formication and tingling at times in the hand under these circumstances, and how the hand is sometimes cold and powerless for several minutes. A drunkard lying out over night may even suffer gangrene from long continued pressure.

As you know the musculo-spiral nerve winds directly around the humerus, and is easily liable to compression between the head and the humerous. The only specially interesting point in the case is the differential diagnosis. There is no history of lead-poisoning. Moreover, the paralysis is confined to one hand, whereas in lead poisoning both would be affected though one may be more affected than the other. The condition is too recent to be due to muscular atrophy. Moreover, there is no atrophy. The prognosis is favorable. It is possible that the paralysis will yield without treatment. But in order to insure rapid recovery, it is best to apply electricity—faradization. In fact, the patient has improved somewhat under a few days treatment, and he will in all probability, entirely recover the use of his hand in a week.

CLINICAL LECTURE DELIVERED IN THE GOOD SAMARITAN HOSPITAL BY PROF. W. W. SEELY.

[Reported by DR. W. H. WENNING.]

Gentlemen: This young lady before you has a double-sided purulent dacrycystitis. The internal angle of the eye is red and inflamed and on one side there is discharge from the lachrymal sac through a fistulous opening. On the other side the fistula is nearly closed. She says she had this affection (acute abscess) twice in the right and once in the left side.

Lachrymal affections form a somewhat unpleasant chapter in ophthalmology. They are frequently difficult to deal with. It is only recently that we have had sufficient anatomical and physiological data for understanding and treating these affections. On account of their frequent association with conjunctivitis it was once thought that these diseases of the lachrymal passages depended really upon some affection of the conjunctiva. As the mucous membrane of the tear sac is continuous with that of the eyelids and the mucous membrane of the nasal duct with that of the nose, it would be therefore more likely that affections of the tear sac would follow those of the conjunctiva, whilst those of the nasal duct would follow troubles of nasal mucous membrane. It does not necessarily follow that affections of the conjunctiva are associated with corresponding diseases in the lachrymal passages; for in purulent conjunctivitis, for example, you would expect the pus would excite inflammation in the tear apparatus, whereas you will never find that to be the case. However, in trachomatous inflammation of the conjunctiva, you will also find the lachrymal sac often affected. Little trachomatous bodies have even been found in the tear sac and in the little canals that carry tears to the lachrymal sac. So also fungous growths have been found there.

In the large majority of cases the disease proceeds from the nasal mucous membrane. On account of the relation of the orifice of the tear duct with the mucous membrane of the nose numerous affections of the nasal passages are continuous of those of the nasal mucous membrane. We may then safely say that the larger part of trouble in the lachrymal passages come from the lining of the nose. As regards sex statistics show that these affections are more frequent in women than in men. The left side is more frequently the seat of trouble than the right, due to the anatomical arrangement of the parts, the left being smaller than the right.

Corresponding with affections of the mucous membrane of the eyelids and nose we divide the inflammation of the lachrymal passages into (1) the catarrhal, (2) the acute phlegmonous, and (3) purulent inflammation. As the walls of the mucous membrane of the nasal duct rest against each other it does not require a high degree of hyperæmia to obstruct this passage. The fermentation of the tears causes irritation, which may increase to purulent inflammation and perhaps acute inflammation of the tear sac and even perforation-fistula. Usually this fistulous opening heals rapidly until a new inflammation takes place, until oftentimes a half-dozen or more such fistulas successively appear. The matter dissects under the skin until it reaches the lowest part, where it will ooze out. In its course inflammation of the lachrymal passages corresponds with the same affection in the conjunctiva—from hyperæmia to purulent inflammation.

The pain is often very intense, especially in the phlegmonous form. It is very painful before the pus is evacuated and there is no relief until ulceration takes place, unless operative interference is resorted to. The first symptom is standing of tears in the eye and epiphora. It is sometimes followed so quickly by inflammation of the lachrymal sac that in a little time you can squeeze out pus through the canaliculi.

It is not always easy to determine, especially in the beginning, whether the trouble is a simple inflammation of the tear sac or a stricture of the nasal duct. For this purpose we ordinarily insert the nozzle of a small syringe into the canaliculi and inject water or a solution of boracic acid to see if the fluid passes readily into the nose when the patient bends his head forward. If this fails it becomes a question whether the stricture is just at the junction of the duct and sac or lower down. The former you may easily overcome, the other you must overcome by mechanical means. Not unfrequently you succeed by using the collection of tears for that purpose, namely by making sudden downward pressure whilst the patient holds the head forward. Sometimes this will overcome the stricture, requiring no further treatment. The use of a probe is often unnecessary and may be productive of mischief. I have seen cases where, instead of entering the nasal duct, the probe had been passed between the mucous membrane and the wall of the duct, causing laceration, and ending in a cul-de-sac as was shown by using the syringe. By establishing thus a false passage the parts were put into a worse condition than they were before. When the lachrymal sac is very highly inflamed it is difficult to get into the duct on account of folds of mucous membrane. The junction of the sac and duct is especially difficult to get over. In order to introduce the probe it is sometimes necessary to open the canaliculi.

In this patient the canal is already slit; I opened it seven years ago. There is just a small closure where the canaliculus enters the tear sac. It is not difficult to pass a small probe through the canaliculi. You then evert the eyelid, stretch it out and pass the probe into it horizontally. After a little elevation, just before the tear sac prevents the probe from entering it. You then elevate it a little. It is not easy to pass the probe without more or less laceration and it requires a great deal of skill and patience to do the thing properly.

Now when we suspect there is obstruction in the nasal duct, shall we use the syringe or the probe? You may first try the syringe and if water does not pass through you may then resort to the probe. Be careful, however, to make the patient hold the head far enough forward, otherwise the water will run into the throat. Nor can you always rely on the word of the patient. This woman before you declares that the water passed down her nose, whilst I do not believe it passed even in her tear sac, for you see on using the probe I meet with an obstruction which I now overcome.

The treatment is often identical with the operation performed for the sake of establishing the diagnosis. In the first case there was a fistula. I placed her under ether, opened the tear passages and passed a probe into each nostril. After this I pressed upon the sac with the finger and crowded the pus into the nose. When you have succeeded thus far the fistula will heal. In a case of acute phlegmonous inflammation you may apply one or two leeches and make hot or cold application to the parts. It may become necessary to open the tear sac, which must be done through the canaliculi, as they must be patent anyhow to enter the duct. Often a slight slit into the puncta, especially the upper one, is all that is needed to get a probe started. The probe may then be easily passed through the lachrymal sac into the nose. But the probe is not necessary as long as you can make pressure on the tear sac and thus empty its contents into the nose. As the mucous membrane of the nose is often the cause of the trouble, you must treat this also with ointments or the brush. Formerly strong astringent solutions were injected into the nose, but I think that as in inflammation of the Eustachian tube they are apt to do more harm than good. I use at present either a solution or ointment of boracic acid with vaseline and put it into the anterior nares to pass up the nose. You may thus succeed very well, but oftentimes you will also be disappointed, for strictures of the nasal duct are difficult to manage. In obstinate cases many advise the removal of the tear-sac either by dissection or cautery. In warmer climates this is often practicable, but in our climate it is not so apt to be successful. Frequently there are relapses even after the stricture has been overcome. Some advise the constant wearing of a probe for one or two years and yet these cases will often be troubled with an overflow of tears notwithstanding.

Now what size probe will you use? Becker, of Heidelberg, and DeWecker, of Paris, use the No. 1 probe of Bowman. Abroad Nos. 2 and 3 are the largest sized used as a rule. I for years have used the smallest probes unless in the beginning for test cases. As a rule, however, use the probe as infrequently as possible. I am confident that in several cases my zeal in this respect did harm.

As regards the time of life that these troubles appear, they are found at all ages, even in infants. In the latter I have of late years simply used injections of water by means of the syringe and succeeded in all of them. One point more. When you use a probe, try one small enough to enter the canaliculus. If possible, the inferior punctum ought to be avoided. Even avoid the use of the syringe here when there is no obstruction. If treatment is at all necessary use the upper one for that purpose. This is a very important subject, for perhaps four per cent. of all eye cases are of this sort. When we take in the affections of the whole internal angle the percentage rate is still higher. As said in the beginning of this lecture, these cases are extremely annoying, often causing blepharitis, and in thirty-three per cent. are accompanied by inflammation of the cornea. The most obstinate affection of the cornea that I ever saw was due to troubles of the lachrymal sac. It was cured by putting on a compress and solely paying attention to the lachrymal apparatus by keeping the nasal passages open.

Reports of Societies.

CINCINNATI MEDICAL SOCIETY.

Meeting of Oct. 31, 1882.

R. B. DAVY, M.D., *Vice President.*	W. H. M'REYNOLDS, M.D. *Secretary.*

Inaugural Address of Dr. B. P. Goode, President-Elect.

Gentlemen of the Cincinati Medical Society:

The position you have called on me to fill I feel is an honorable one, and I trust I shall discharge the duties of the office in such a way as will be a credit to myself and redound to the advantage of this Society. A long attendance at medical societies has convinced me of their great utility to their individual members. It is almost impossible for a physician to be a constant listener to the proceedings of a medical society and at the same time remain an indifferent practitioner. Books and magazines may abound on our tables, yet there is nothing more true than "as iron sharpeneth iron" so does the physician sharpen his fellow. The culling, the sifting which is necessary to be gone through with in order to separate the wheat from the chaff is accomplished in no better way than in the medical society. It constitutes in the highest sense a continual post graduate course.

The good work of a medical society does not cease with its own members. The papers read and discussions had on the various subjects presented are sent, through the medium of the journals, over the country, and we may even say throughout the world. For, in fact, work done in this society has been noticed with respect on the other side of the waters. It is a noted fact that the physicians of the country look to the reports of the medical societies of this city with greater interest than to any other literature contained in the journals. It was not my intention to make a speech or write a paper, but simply to call the attention of the society to a want, which we have all felt, of a more systematic and thorough working of our resources. In our number we count leaders in every department of medicine, yet not a tithe of all this talent is brought into requisition.

Let it be distinctly understood at the same time there has been good work done. But how much more could be accomplished with a wiser policy. How this may be best accomplished I shall leave to the wisdom of this body to devise. It has been the custom in this Society to expect of the President-elect to make special effort to secure papers and reports to be presented at the various meetings. This has been met with indifferent success. Gentlemen have occasionally volunteered papers and announced their subjects in advance. This is certainly in the true line of success, and we have not failed to see that its results are always good. Members are enabled to prepare themselves as they should, in order that their very best thoughts may be produced. Nor shall it be considered derogatory to any gentleman, should his thoughts "smell of the lamp."

Such utterances will carry a degree of authority. I will not detain you to-night further than to say, that it is my earnest solicitation that you nominate a committee of such number as you may think best, to appoint persons to read scientific papers, and to perfect plans on which the Society may be conducted the coming year.

Dr. W. H. Taylor said, during the week he had seen a child seven years old suffering from pain in the ear, with some puffiness under the eyes, but no elevation of temperature. Some time previously, about two weeks, another child in this family had been attacked with scarlet fever and died on the second day. The former child was at that time sent away from home to avoid the contagion, and while away had an attack of what the attending physician called malaria fever. It was upon its return home that Dr. Taylor saw it. At his next visit upon the second day the edema of the face had increased. Upon the third day the legs were swollen, the urine had diminished in quantity, was loaded with albumen and contained some casts.

Vapor baths were used and followed by wrapping in blankets which produced copious diaphoresis. Large doses of bitartrate of potash were given without moving the bowels or increasing the urine. There was some induration of the submaxillary glands and finally otorrhœa, but no desquamation. Nor was there any elevation of temperature while Dr. Taylor was in attendance, was this attack of so-called malaria fever a case of scarlatina without the eruption?

Dr. Stanton thought the history of the case and the character of the sequella warranted the diagnosis of scarlet fever. The child had been exposed to the contagion and was reported to have have had a fever. Called malaria fever. But the symptoms which followed under Dr. Taylor's observation would not be likely to result from any other disease than scarlet fever.

Dr. Taylor reported a case of a boy nine years old who came home from school sick on Monday. He saw him on Tuesday when he was unconscious, his eyes fixed in a vacant stare and he was unable to recognize anybody—had an involuntary stool while the Doctor was examining him and died next morning. The diagnosis in this case was scarlet fever. This boy's sister was sent away to avoid the contagion, but was taken sick with sore throat. Some redness of face and had a temperature of 100°, but no eruption. Her illness was not severe and lasted only a few days. The doctor thought this also a case of scarlatina, though there was no desquamation except a slight roughness on one wrist, which might have come from many other causes. She had none of the other sequelæ of scarlatina.

Dr. McReynolds reported a case of dislocation of the acromial end of the clavicle. The patient, a little girl six years old was thrown down while at play and the point of the shoulder struck the pavement. Immediately after the receipt of the injury, the following appearances presented. The arm hung down loosely by the side, the shoulder was depressed and thrown forward, the head inclined to the injured side, and the end of the clavicle overriding the acromion formed a tumor immediately under the skin, where its smooth rounded articular surface could be distinctly felt.

By fixing the scapula and drawing the shoulder back the dislocation was easily reduced. A compress was placed over the seat of injury and held in position by a figure of eight bandage, which also assisted in holding the shoulder back. The arm was supported and fixed to the side by Fox's dressing. The cure, without the slightest deformity, was complete in a little less than four weeks.

This was very gratifying as well as somewhat unexpected, for Gross, Hamilton, and Sir Astley Cooper, the authorities consulted, are all very discouraging in the prognosis of complete luxation where the coronoid and trapezoid ligaments are ruptured. This was undoubtedly the case in this instance, because the end of the bone could not have slipped so far over the acromion if these ligaments had not given way. It is to be presumed that the youth and vigorous constitution of the patient were much in her favor in the case reported

Dr. T. H. Kearney said he had seen a case of ventral hernia four weeks previous in consultation with Dr. Fishburn.

The patient, a woman fifty-five years old, was a lymphatic subject, with a quite fat and flabby abdomen. She had complained of general abdominal pain for two or three days, and Dr. Fischburn had recognized an obscure swelling in the lower part of the abdomen. The swelling was obscure on account of the thick deposit of adipose tissue which covered it. It was somewhat sensitive but not decidedly so, could be handled for examination with but slight inconvenience to the patient. Its long diameter lay in the direction of the fold of the groin. She vomited offensive but not stercoratious matter. There was no action of the bowels though much active cathartic medicine had been administered.

As it was late in the evening, and the necessity for operating was not urgent, morphine was given and an appointment made to see the patient again at ten o'clock next morning. Then she was found to be in profound collapse, and died the following afternoon.

Autopsy.—The small intestines somewhat congested, with a knuckle engaged in an opening in the abdominal wall. In this knuckle was comprised just enough to include the whole calibre of the gut and no more. The portion of intestines engaged showed much congestion, but still preserved its glistening appearance; there were no adhesions, no effusion. The opening was circular, with thick indurated margins, and was large enough to admit the index finger, It was situated a little above, and two inches external to the internal abdominal ring, or in a line one inch internal to the anterior spinous process. It was through the transversalis fascia and covered by the muscular fibres of the lower border of the internal oblique. There was no attachment of this muscle to Poupart's ligament, and comparatively few fibres passed to the crest of the illium near the anterior superior spinous process. This imperfect development of the internal oblique was probably the source of the weakness which permitted the abdominal wall to give way at this point.

There was no history of the patient ever having received any injury of the abdomen, but she had had frequent previous attacks of a colicky nature, during which she recognized this swelling. Dr. K. thought this case of interest because he had not found any authority consulted, to mention intra-mural ventral hernia in the same situation, the accident generally occurring in the linea alba or linea semilunaris.

Dr. C. P. Judkins agreed with the last speaker in the opinion that imperfect development of the internal oblique was the cause of the abdominal opening in the case reported.

He also reported a case of femoral hernia in a woman seventy years old, which he had seen some years ago with Dr. Perine. Failing to reduce by taxis, and the symptoms being urgent, he had operated and found the apendix vermiformis through the femoral ring and adherent to the sheath of the femoral vessels. The imprisoned portion was returned and the patient made a speedy recovery.

Dr. J. C. Culbertson reported a case of malarial hematuria in a child two and a half years old. The child had a chill every afternoon, but the chief symptom was bloody urine. The proportion of blood in the urine was very large, sometimes as much as one third. The trouble disappeared speedily under the use of quinine.

ACADEMY OF MEDICINE.

Meeting of October 30th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*
W. H. WENNING, M.D., *Secretary*

REPORTS OF CASES.

Salivary Fistula—A New Operation—Cure

Dr. J. L. Krouse reported a case of salivary fistula, stating that it was of interest on account of the operation employed being different from that usually mentioned in text books, and on account of its favorable result.

The patient, a girl of five years, four months ago injured herself by falling upon a sharp piece of wood, which entered her cheek. The greater part of the foreign body was removed at the time of injury; but subsequently several smaller pieces came away The wound discharged all the time, and not seeming to get any better, the mother brought the patient to the clinic of the Medical College of Ohio. Here the speaker saw the patient for the first time. She presented on the left cheek, midway between the angle of the mouth and the concha of the ear, a linear cicatrix, vertical in direction, of 1½ inches in length. At the upper border of the same, there was a large vesicle filled with turbid fluid. This, the mother said, would burst every now and then, discharging the watery contents over the cheek. As long as there was a free outlet to the secretions, the patient complained of no disagreeable symptom; but when the opening closed, then pain as well as swelling of the parotid region supervened.

On August 4, that is three months after the receipt of injury, he operated by passing a silver wire armed with two straight needles through the external opening into the buccal cavity. The free ends of the wire were then twisted in the mouth and the external wound closed.

The object of the wire was to maintain an opening between the injured duct and the buccal cavity; it was allowed to remain there until the external wound had closed.

On September, 5th, thirty-two days after the operation, the wire was removed. The recovery was perfect. The last time that the patient was seen was on Oct. 24th, seven weeks after removal of wire. At that time the wound was still closed.

DISCUSSION.

Dr. P. S. Connor remarked that, in view of the fact that salivary fistulæ are very troublesome, especially when there is great loss of substance, the reporter of this case could be congratulated on his favorable result. He preferred this operation to the usual method of making an opening inside the buccal cavity or punching out an opening.

Dr. Osmond said the case was similar to one he had some years ago. The original cause in this instance was a decayed tooth, and the discharge was copious. He operated by puncturing a hole into the mouth and inserting a small, hard rubber tube, with a slight flange put in, from the outside, and fitting another one on that from the inside. Afterwards he closed the external wound with stitches and applied collodion over it. The rubber tube remained in place one month, after which the patient was cured.

Dr. Ransohoff had no personal experience with salivary fistula, but from the fact that it often required several operations before it proved successful, he also considered the result obtained by the reporter of the case under discussion very satisfactory. The principle of all operations is the same, to establish an opening into the mouth that must remain patent. Usually it is punched with a trocar and a tube of lead may then be inserted.

Dr. Zenner said he could testify to the success of the operation, as he had seen the case both before and after it was operated. He remembered reading an article some time ago in the *Progres Medical*, where a Paris surgeon suggested an elastic ligature for that purpose.

Dr. Young remarked that some of the speakers had mentioned the difficulty of keeping the duct open, and that it was therefore necessary to punch out a hole. He remembered a case where a man had had a fistulous opening for a long time. A surgeon passed in a bistoury and united the external wound with a couple of sutures. The speaker pursued the same method in one instance and found it sufficient. All that is necessary is a simple opening. The external wound will unite and the internal is kept open by the flow of the saliva. Neither in this nor the case of the other surgeon was there any return of the difficulty.

Irrigation of the Bowel in Dysentery.

Dr. Whittaker called attention to the obstinacy of chronic dysentery to treatment. Mr. Ward, of London, said that those cases that lasted longest, and finally got well, had least to do with therapeutics. The speaker had recently at the Good Samaritan Hospital, a case of dysentery with fifteen to twenty discharges in the twenty-four hours. When the patient was first seen she had been in the hands of several physicians, and her case seemed hopeless. He gave her large doses of ipecac, thirty grains every four hours, in the beginning. The second dose controlled the discharges, but after the third or fourth powder they again became very bad. He then thought of trying irrigation of the bowel with a solution of nitrate of silver, after the method recommended by H. C. Wood, one and a half drachms to three pints of water. This was carefully injected and the effect was very marked, the patient having but one stool in twenty-four hours. The collapse disappeared, but the next day the dysentery returned. He then gave two or three doses of opium to the patient to stimulate the brain, but it seemed to give her great discomfort. The second day the dysentery returned, when he again repeated the injection, but instead of nitrate of silver he used a solution of alum, one drachm to the pint of water, injecting in as large a quantity as possible, which in this case was three pints. The discharge then ceased, and since then the patient has entirely recovered.

This irrigation method is nothing new in the treatment of dysentery. Sydenham treated his patients by drenching them with water both by mouth and rectum. Aretaus spoke also of washing out the bowel, although neither of the old writers mentioned astringents.

Stephen McKenzie, of London, has recently advocated irrigation in this way, showing that no force was necessary, all that was needed being simply to pour in the water from a funnel and tube. It is a very great question if the action of the astringent has so much to do with the case as the flushing out of the detritus and the poisonous germ. The failure of the ipecac in this instance shook the speaker's faith in this remedy though he had seen chronic cases cured by ipecac in two days. He was under the impression that it would relieve almost any case except where there is an hepatic abscess. This was the second case where ipecac failed in his practice. The best results have usually come from the recent or acute cases.

DISCUSSION.

Dr. Ransohoff suggested that the mere distension of the bowel with water, independent of the astringent, might so paralyze the gut as to overcome the dysentery.

Dr. Davy considered the treatment quite rational. He had seen but little success from the use of ipecac. He had considerable experience in the treatment of dysentery by flushing out the bowel, not however with injections, but by the internal administration of large doses of sulphate of magnesia or castor oil, thus washing out everything that is irritating. The speaker did not consider parasites or germs the cause of chronic dysentery. Consequently we had to look more to general than local treatment. The mere distension of the bowel would not paralyze its action, but simply obliterate its folds so that the material injected plays upon all parts of the mucous membrane. He had used small injections of tannin and other astringents but relied especially upon first cleaning out the bowels and then giving slight injections or an opiate.

Dr. Conner thought that this injection treatment might not prove so satisfactory in warmer climates. In 1863 and '64 he saw many cases of dysentery in the army. It was then supposed that the men could only get well by being sent to a higher latitude. On examination the bowel was entirely ulcerated in these cases, scarcely one inch remaining free. Sometimes the mucous membrane was stripped off. As the disease is different in its results in warmer climates this treatment would not be so serviceable as in our or a more northern latitude.

Dr. Geo. E. Jones said that for the last five or six years it had been his practice to drench the bowels thoroughly with water, both warm and cold, combined with other treatment. For this purpose he had used alum, tannin, nitrate of silver, etc., and was of the opinion that in the majority of instances if used along with proper internal medication many so-called incurable cases would be cured. He gave generally very copious injections, from five to ten pints at a time and let the patient throw this off at once. After a rest of three or four hours another injection is given with astringents. Besides this he gave tablespoonful doses of castor oil with a teaspoonful of turpentine. In the majority of cases large injections must be given.

Dr. Young said that the extent of ulceration did not always portend the gravity of the case. Sometimes patients die with but little ulceration. For instance at the Cincinnati Hospital was a case in which the speaker thought surely to be a stricture of the rectum and, from the amount of discharge, extensive ulceration. The patient died from some intercurrent affection and to everybody's surprise the post-mortem examination showed no stricture and but slight abrasion of the bowel. Where there are slight ulcerations irrigation may be useful, but whilst the symptoms are still acute they are more apt to be aggravated than improved by injections. The speaker remembered the late Dr. M. B. Wright stating in a lecture many years ago that his treatment for dysentery consisted in an injection of morphia in a small quantity of fluid, followed by a large dose of the compound jalap powder, to be repeated, if necessary. When the speaker entered the service he adopted this treatment until the Surgeon-General prohibited the use of calomel, when simply the sulphate of magnesia was substituted. From this treatment there never resulted the chronic form. Other surgeons gave opiates with serious results. In Savannah, soldiers came back dying of dysentery in the ambulances; they had all been treated with opium. Post mortem examinations were made in many of these cases and drawings taken, which the speaker still had in his possession. These illustrations showed the frightful condition of the intestines in many cases. Sometimes three or four inches of intestine were in a highly congested condition, contained a gelatinous fluid with shreds as found in the stools and by severe straining the mucous coat would be thrown off. He himself had an attack of dysentery about one year ago. At first he took opium which gave him but partial relief. He then took eight grains of calomel with one ounce of bitartrate of potash, which caused several operations of the bowels in a few hours, and then he was relieved. He was therefore inclined to believe in Dr. Wright's theory that the large doses of calomel and jalap reduced the congestion of the lower part of the bowel which caused the disease. Ipecac had always failed in his hands. Ruschenberger recommended sulphate of zinc. The speaker also used it with success formerly but in the service he never obtained relief. As for the germ theory, he did not believe in it, especially in the acute form of the disease, but admitted that it might be the cause of the chronic forms. Acute cases usually result from exposure to cold, especially at the change of season. For this reason it occurred mostly in September in the army when the men did not keep themselves properly covered during the night. Young soldiers, unused to hardships of outdoor life, suffered most frequently.

Dr. Reamy doubted not that the injection treatment was not only rational theoretically but eminently successful clinically. The local action of remedies is too well recognized to be questioned. But besides this he must testify to the inestimable value of large doses of saline cathartics in sporadic cases. As much as quinine is a specific in malaria large doses of sulphate of magnesia, from one ounce to an ounce and a half, combined with fifty to sixty drops of the aromatic sulphuric acid and forty to fifty drops of the tincture of opium in a single dose will prove a specific in sporadic dysentery. To allay pain this is to be followed with opium. He had tried this plan so often that he was positive of the relation between this treatment and its result. In country districts dysentery is more apt to be epidemic than in cities. While practicing in the country he passed through many epidemics of dysentery and found his cases get well by the above treatment.

The soothing effect of warm water injections in inflamed condition of the bowels is certainly true; still more so in the chronic form. The use of nitrate of silver in injections for chronic dysentery was first recommended to the speaker by Dr. Shipley in Nashport, O., many years ago. In several cases it acted like magic, in others it seemed to aggrevate the disease. The influence of nitrate of silver in controlling inflammation when the mucous membrane of submucous tissue is involved is unequalled by any other remedy. Its marvelous action on the uterine cervix, where all other treatment has proved of no avail, was no doubt the cause of the perpetuation of its use in other parts. When an inflammation of the cervix has resisted other remedies one or two applications will effect a cure. Here we see its influence in healing the milder forms. The same is true of the rectum and other mucous membranes, whether germs are present or not. As regards the action of the injection of alum in dysentery, the speaker could not express an opinion as he had no experience with it in this manner. Ipecac is of great service in certain cases. The speaker recently saw a case of chronic dysentery which had lasted two or three years, the condition of the bowels alternating between diarrhœa and constipation.

The patient came into his hands during the absence of her family physician. He cured her in less than a week by giving her three doses of ipecac of fifty grains each. She vomited for half a day, one powder in twenty minutes, the others in one hour and a half. From the second dose she vomited violently, and for a long time. She also sweated profusely. The prostration is no contraindication, except in very much debilitated subjects, as it is only apparent, unlike the real depressing effect of tartar emetic. Patients will rally from it in a short time.

Dr. Whittaker stated in conclusion that the suggestion had been made that the distension of the bowel might as much have caused the beneficial result as the flushing out. As the bowels are frequently very much distended with gas where the disease is very severe, certainly the mechanical dilatation does not amount to anything. It is no longer tenable to exclude micro-organisms as a cause, because of chronicity of an affection, as the greater forms of life, like trichinæ, have been found in the tissues after twenty years. Dysentery is a disease which constipates the bowels, the scybala acting as irritants, hence it requires laxatives, not astringents, in its treatment. The truth is the internal use of astringents is contraindicated in every stage.

One of the gentlemen thought that the injection might be more efficacious in our latitude than in warmer climes. The speaker would remark that it was just in a warm climate, the East Indies, where the irrigation treatment was used with such success. Its failure in many cases may be due to the fact that the method was not carried out properly; the fluid must be allowed to run in so as to completely inundate the bowel. The large bowel in a full grown male will hold six imperial pints.

Another member thought the disease might be due to exposure to cold. That theory may hold good in some cases, but the prevalence of the disease also in hot weather will not refer every case to this cause. Cold weather often puts a stop to epidemics of this disease. The contagiousness of the disease is also pretty generally accepted. Formerly the explanation of a *locus minoris resistentiae* was deemed sufficient to account for the cause of this, as of any disease after exposure, but the direct explanation has been afforded by the experiments of Pasteur with the attenuated virus of fowl cholera that a reduction of temperature will permit the growth of micro-organisms that would not grow without it.

As the disease is simply local and not constitutional, the secret of its treatment lies in topical measures, just as we treat any other local disease. It is necessary with the irrigation treatment that the quantity of fluid be large. Some agents are used with the water, not wholly without danger from being absorbed and setting up unpleasant constitutional results. Thus carbolic acid may prove dangerous from the absorption of the poison from the vast denuded surface of the intestine. So also unpleasant results may follow the use of nitrate of silver—argyrosis—so that a solution of common salt should be at hand to follow it. In the case reported the disease yielded so immediately to the alum irrigation that no matter what theory was propounded, the relation between cause and effect was clearly shown.

Selections.

SURGERY.

The Use of Iodoform as a Dressing in Surgery.—In the surgical clinic at Munich iodoform has been used as a dressing in two ways; in the form of a powder, and a gas. When used as a powder it was always mixed with boracic acid (equal parts of each). The results obtained were very satisfactory. H. highly recommended its use in cases of burns and bruises, achieving far more satisfactory results than with Listerism. The use of iodoform is especially valuable on such parts of the body where Lister's dressing cannot be applied; buccal cavity, female genital organs and the rectum. On the contrary H. does not approve of the use of iodoform in punctured wounds and deep cuts, because it rather prevents than favors healing by first intention. Where we have a wound or a cavity to deal with, the author prefers the use of the gas instead of the powder, since if there should be symptoms of intoxication from the absorption of the iodoform, the removal of the powder from a cavity would be far more difficult, than to counteract the symptoms after the gas had been used.—Dr. Helferich in *Deutsche Medizinal Zeitung.* C.W.T.

MEDICINE.

Anglo-Swiss Milk Food.—The attention of the medical profession has of late been closely directed to the cause of the enormous proportion of infantile deaths, as recorded in the mortuary records. The general conclusion seems to be that this terrible loss of life in young children, especially at the critical period during the earlier months of dentition (at which time some artificial food is generally either added to, or entirely substituted for the natural aliment), is largely due to innutrition; in other words, that owing to the want of an artificial food calculated to supply the great demands upon the system the infant is, in effect, starved.

Although, perhaps, diluted cow's milk offers the best substitute for that designed by Nature, yet in so few cases can this be found pure, at least in cities, that is does not contain the essential ingredients for the support and development of infantile life.

Estimated in a cursory manner, human milk contains about 800 parts of water to 110 parts solid matter; and of this solid matter caseine, fat, and saccharine matter occupy the larger proportion. If milk contains these ingredients in the proper proportion, it is assimilated by the infant, and we have as a result healthy growth and development; but if these constituents are wanting, the child is imperfectly nourished, and easily falls a victim to the many disturbances which accompany dentition. To meet this want several artificial milk foods, more or less scientifically prepared, have been introduced to the public, and one of the most desirable is that known as the Anglo-Swiss Milk Food (made by the Anglo-Swiss Condensed Milk Company at Cham, Switzerland). This food has been proved to contain all the necessary ingredients for a reliable food for infants, and having received the highest indorsements from the medical profession in Europe, and in New York and other American cities, may, therefore, be used with perfect confidence by all having the care of young children.

The proof of the superiority of this food is shown by the analysis which is printed on the label of each can.

THE CAROTID PULSE IN AORTIC INCOMPETENCE.—By James T. R. Davison, M.D., Edin., *in British Medical Journal.*

On feeling the pulse in the carotid arteries in a case of aortic incompetence, I accidentally found, one day, that there was a difference in the strength of the pulsations on the two sides. Since then, I have examined the carotid pulses in every case of aortic incompetence that has come into hospital, with the following result. Out of ten cases, in one group A, consisting of six cases, the right carotid pulse was distinctly stronger than the left; in another, group B, consisting of two cases, both were of the same strength; while in the third group C, consisting of the remaining two cases, the left carotid pulse was distinctly the stronger. In every instance the radial pulses were of equal strength. The best method to examine a patient is to get him on a chair, or if this be not possible, to make him set up in bed, his head being slightly reclined backwards; then to place oneself behind him, and feel the carotids about the lower level of the thyroid cartilage. It is necessary not only to use the same pressure, but also to keep the same relation between the fingers and the artery on each side; for if the artery be felt in front of the finger a different impression will be produced from that which is perceived when it slips to its side.

In trying to ascertain what was common to each group of cases, I found that neither the degree of ruptured compensation, the conditions of the pulse, the presence of mitral regurgitation, nor yet the degree of aortic obstruction could be identified with any of them. One condition appeared to distinguish the groups, and that was the relative size of the heart. The two cases in which the left carotid pulse was the stronger had the largest hearts. Of the six cases, in which the right carotid pulse was the stronger, four had hearts smaller than any of the preceding ones; one, whose heart I did not percuss before death, had a heart weighing only twenty ounces; and the last had a heart slightly larger than either in group B, but less than either in group C.

In health, the carotid arteries pulsate equally strongly, so that we cannot regard these differences which occur in disease of the aortic valves, as mere accidents, depending upon differences in the lumen of the arteries. And this is borne out by the fact that these differences of strength in the carotid pulses are subject to occasional variations in the same subject. I only had opportunities of examining a few of the cases on more than one occasion, and the variations observed were, that where the right carotid had been the stronger, it became of equal strength with the left. I never found that where either carotid had been the stronger, it ever became the weaker. Normally, when the left ventricle contracts, it sends forth its wave of blood into an aorta whose coats are distended by the blood-pressure within it. Therefore this wave, by simply increasing the blood-pressure, will act equally on each carotid. When, however, aoritic regurgitation is present, immediately before the ventricular systole, the coats of the aorta and carotids are to a certain extent collapsed, and those of the right carotid more so than those of the left, because its axis lies more in a line with that of the aortic orifice, and thus the right vessel will be more fully emptied than the left during the diastole. When the ventricle now contracts, its wave will no longer act simply by increasing the blood-pressure, but has first to distend the walls of the partially-collapsed arteries. In effecting this, the wave goes straight up to the right carotid, but before it reaches the left carotid it loses a portion in distending part of the transverse arch. Thus the right carotid with each ventricular systole will receive more blood than the left. Hence the greater strength of the right carotid pulse, and this greater strength will be the more apparent to the touch; that the right carotid is more fully emptied than the left during the diastole. We have seen that this condition obtained in six out of the ten cases. When the heart is very much enlarged, it may drag down the ascending aorta with it, and, by so doing, will bring the axis of the left carotid more in a line with that of the aortic orifice, so that the axial relations of the carotids to the aortic orifice will be about equal on either side. Under these conditions, we would expect that the carotid pulses would be equal, and this is what we find in group B, where the hearts are very much enlarged. Again, in group C, where the hearts are still more enlarged, a more extended change in the axial relations of the carotids and aortic orifice may explain the strength of the left carotid pulse, while the variations occasionally met with may be due to temporary slight displacements of the heart, brought about by flatulence, etc. Whether this be the true explanation or not, the fact remains that differences in the strength of the carotid pulses are very common in aortic incompetence. This fact is important as an aid in the diagnosis of this disease, but chiefly as a possible source of fallacy in the diagnosis of aortic aneurism.

CEREBRO-SPINAL MENINGITIS AS AN EPIDEMIC IN ROME.—Dr. L. Concetti reports seven cases of this terrible disease which have come under his own personal observation during the short space of two months in the Hospital of S. Spirito. He knows of many other similar cases which were admitted to other hospitals, also of private patients where the diagnosis in every instance was that of febris perniciosa malaria, but he maintains that these cases were cerebro-spinal meningitis, owing to the fact that quinia failed to have any effect, and also it was during the season when malarial fever was only exceptional. The Doctor reports every case in detail, also the anatomico-pathological alterations when the disease would end fatally. The most peculiar alterations would be the congestion of the blood-vessels and of the meninges, as well as the fibrino-purulent exudation around the base of the brain and of the spine.

The Doctor remarks that Hirsch, Ziemssen and others insist on the disease being common amongst children as an epidemic. The cases above mentioned, however, were found in aged people only and boys of nine years of age. The men were attacked more violently than the women, and, in fact, only one of the seven patients belonged to the female sex. Many practitioners do admit of a relation between the infection of this disease and that of malarial fever. The Doctor remarks the attacks of this disease are longer than those of the malarial fever and the intermittance is rare and of very short duration. The temperature never is so high as in the malarial fever. Quinia has no effect whatever on the disease and in the before mentioned cases none of them derived any benefit from even hypodermic injections of quinia. The Doctor firmly believes that the affections are entirely different. Sometimes they may both be found in the same individual, in which instance the prognosis will be more grave, as the one infection aggravates the other.

The Doctor here fully answers the questions which have arisen as to the contagion of this disease. Frenzel and Hirsch admit of contagious properties. All the cases came from the city. The most prominent symptoms were as follows, first, terrible headache, especially in the forehead, which in the favorable cases continued after the recovery; delirium, sometimes gay, at other times furious, prevails during the earlier stages of the disease; vomiting, which, at times, lasts to the end; contraction of the muscles of the neck, jaw, limbs and spine; the temperature, irregularly intermittent, however, never reaching the height of that of other contagious diseases, *e.g.*, malarial and typhoid fevers.

As regards hypertrophy of the spleen it may be said that it is not possible to positively settle this question in this country because of its frequent occurrence from malarial poisoning.

But the constant finding of softening of the spleen would be a further proof of its infectious character. The invasion of the disease was exceedingly rapid in individuals enjoying the best of health, which would not happen in cases of tubercular meningitis. The attacks were prolonged from one to two days which has never been observed in malarial fever. The pulse was strong and frequent, becoming very weak and rapid in the time of intermittance. The Doctor also observed hyperesthesia of the skin. Rachialgia and arthalgia only in one instance occurred paralysis of the voluntary muscles of the pharynx, but often the rectum and the bladder would become paralyzed. He once found albumen in the urine.

As to treatment, he says quinia is useless but recommends the application of ice-bladders on the head, sometimes in conjunction with leeches, to be applied to the mastoid processes and finally he gives calomel internally.—*Bulletino della Societa Lancisiana, Roma.* A.R.

INVAGINATION OF THE SMALL INTESTINE.—On the sixth day after invagination of the ileum 120.0 grm. mercury was administered to the patient in two doses (of 60.0 grm. each) during the course of an hour. Fifteen days after this patient had a few diarrhœal discharges from the bowels, in one of which a portion of the intussuscepted bowel was found looking very gangrenous. After a period of five weeks symptoms of intestinal stenosis again made their appearance (vomiting of stercoraceous matter mixed with mercury). These symptoms disappeared in the course of a few days when diarrhœa set in; stools were largely mixed with mercury. The mercury had been retained in the intestinal canal for six weeks without causing symptoms of intoxication. — *Medical Zeitung.* C.W.T.

SOME OBSERVATIONS IN CONSUMPTION.—A large number of consumptives complain of a sense of chilliness, both during the day and at night. Cold feet at night is a symptom complained of for a number of years before signs of cough, emaciation, or any other of the local symptoms have made their appearance. Another point of interest preceding the local symptoms, is a manifest disposition to stomach disorders; some of the symptoms most frequent are loss of appetite, sensation of fullness and oppression after partaking of food, flatulence, pain under the sternum and vomiting of such severity that one might be led astray and think the case one of ulcer of the stomach. Individuals apparently strong, robust, and well-nourished very frequently complain of weakness and loss of strength. Menstrual irregularities are not infrequent, sometimes amounting to complete amenorrhœa. A large proportion of cases that become phthisical in later years present eccentricities of the appetite from early childhood; there is a morbid craving for salty meats, fish, raw onions, etc.; on the other hand there is a dislike to all articles of diet containing fat; this may continue for a number of years and then again it may disappear suddenly. Author thinks it advisable not to contradict these perversions, but to gratify the desires of the patient.

Observations made in a few hundred cases show that there is a premature decay of the upper incisor teeth. The finger nails are sometimes peculiarly shaped, though this symptom only shows a diminution of the vital forces. Changes in the bony system are frequently quite marked, often there is a distinct difference with regard to shape and size the superior maxilla and nasal bones of the right and left sides. This peculiarity may also extend to the cartilage of the nasal bones. In exceptional cases the hand is small, but nearly always it is abnormally large; the development of the thorax seems to have been arrested in childhood, while the balance of the bony system continues to develop normally. Phthisis is not of specific origin, and even the presence of bacteria in a well advanced case does not cause any material change.

The therapeutic remarks by the author do not offer anything new positively, but are entirely too hypothetical. He very highly recommends electricity as treatment but fails to give any results or statistics.—*Medical Zeitung*. C.W.T.

Miscellany.

Sweet Peace.—Two New York neurologists were recently seen to shake hands with each other in a cordial manner. It is thought now that it will not be necessary to organize a third neurological society.—*N. Y. Med. Record.*

We are so glad. Utterly two-two.

The concentrated extract of "Pinus Canadensis" has established for itself the most unqualified commendation as an astringent, and it scarcely requires any further affirmation on my part.

Louis Bauer, M.D., M.R.C.S., Eng.,
Professor of Surgery in and Dean of College of Physicians and Surgeons, St. Louis, Mo.

Mr. George E. Waring, Jr., has been appointed member of the National Board of Health vice Dr. Charles F. Folsom, resigned.

Nitric Acid for Chilblains.—Dr. Lapatin, who had a large experience with soldiers during the Turco-Russian war, recommends nitric acid as an application in chilblains. Equal parts of dilute nitric acid and aqua menth. pip. are pencilled on the toes, at first daily, then twice a day. After three or four days a brownish scurf is formed, which is thrown off.—*N. Y. Medical Record.*

Cincinnati Medical Society. — Dr. W. Carson will read a paper next Tuesday evening on "Some Features of Bright's Disease."

Academy of Medicine.—At the next meeting of the Academy, Monday, 20th inst. the following cases will be reported and discussed by Drs. Reamy and Davy, each one case of Gastric Ulcer, and by Dr. Ransohoff a case of "Dislocation of the Elbow."

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The editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, November 18th, 1882.

Bibliography.

Bartholow's "Medical Electricity."[1]

The second edition of this work is the best work of the kind in English language.

The book is divided into six parts treating of the following subjects;—Electro-Physics; Electro-Physiology; Electro-Diagnosis; Electro-Therapeutics; Electricity in Surgery; and Thermo-Electricity. Any one who carefully reads this book will be convinced of the important place which electricity holds as a diagnostic and therapeutic agent. A part of the work is rather elementary, but this will only add to its value with the majority of practitioners. Dr. Baltholow evidently has a wholesome belief in the efficacy of electricity when properly used, which is quite refreshing after hearing so much of the wholesale therapeutic nihilism which is at present so fashionable. The book is a valuable addition to any physician's library. T.

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[1] Medical Electricity; A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A.M., M D., L.L D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia, etc. etc. Second Edition, Enlarged and Improved, With One Hundred and Nine Illustration. Philadelphia; Henry C. Lea's Son & Co., 1882. Cincinnati; Robert Clarke & Co.

MEDICAL INDEX.—MINER.[2]

This is rather an elaborate work of 380 pages. If a student takes notes during his college course, they are, as a rule, of little use to him in practice, because of their lack of arrangement.

If, however, the main points were copied into the Index, they could be easily found at any time. At the same time the student could begin to index the valuable points met with in his reading, so that when he desired to look up any particular subject the material would be of easy reach.

For the practitioner the book is designed to be an index of reading and practice. With very little trouble can the special points in his reading be catalogued so that they can be referred to very readily.

Especially will this Index be valuable in reference to medical journals. It is sometimes necessary to look through a long file of different journals for a particular article, when, with this index, the article could be found at once.

The apparent intricacy of the Index will become simple with a few moment's study. To the systematic student and physician the "Medical Index" will be found of great use. T.

DISEASES OF THE RECTUM[3]

The profession is to be congratulated on having brought within the easy reach of each of its members this excellent series of standard works. The typogrrphical work is good, the size is convenient, and the price is lower than of any other series of publications of an equal degree of excellence.

Allingham on "Diseases of the Rectum" needs no introduction to the majority of our readers. It is a complete monograph on the subject. Some statistics as to the frequency of the different diseases of the rectum are given, which, I think, are rather at variance with our general ideas on the subject. Among 4 000 consecutive cases observed as out-patients of the St. Mark's Hospital, the most frequent disease was fistula, of which there were 1,208 cases; the next in order of frequency was internal hemorrhoids, 863 cases. The author attributes the greater frequency of fistula to the fact that among the laboring population, from whom the cases are taken, they do not apply for relief for mild cases of hemorrhoids but for every case of fistula they are driven to seek treatment.

The book is well written and contains the latest information in reference to all the diseases of the rectum and the treatment, medical and surgical, for their relief.

ESSENTIALS OF VACCINATION.—HARDAWAY.[4]

This little volume contains in its ten chapters and 146 pages just what the general practitioner should know about vaccination. The opposition to vaccination by a class of otherwise intelligent people is so violent and persistent that all physicians should thoroughly post themselves and their patients on the subject.

The book contains valuable information in a concise form of Inoculation; The history of Jenner's discovery—Cow-pox, Horse-pox, Sheep-pox; The Symptoms, Course, and Deviations of Vaccinia in the Human Subject; Abnormal Modifications and Complications of Vaccinia; Re-vaccination and how often it should be performed; Comparative merits of the different kinds of virus; Methods of obtaining and storing the virus; How to vaccinate; and finally a consideration of the objections to vaccination. Prof. Hardaway is to be congratulated on the entertaining style in which the book is written. The publishers have done their work unusually well, the beautiful typography adding not a little to the value of the book.

PUBLICATIONS RECEIVED:

The Digestive Power of Commercial Pepsin in Artificial Digesters and in the Stomach.—By C. L. Dana, A.M., M.D., etc. [Reprint from the American Journal of Medical Sciences, October, 1882.]

The Opium Habit.—Its successful Treatment by the Avena Sativa.—By E. H. M. Sell, A.M., M.D., etc. [Reprint from the Medical Gazette, April 22, 1882].

Medical Record Visiting List.—This popular list for 1883 is on our table. It is as usual issued in elegant style.

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[2] A Medical Index; being a a Completely Indexed Note Book for Students, and for Physicians a General Index and Record Book for all Valuable Professional Reading and Experience. By Joel A. Miner. Published by Joel A. Miner, Ann Arbor, Mich. Price $3.50.

[3] The Diseases of the Rectum, including Fistula, Hemorrhoids, Painful Ulcer, Stricture, Prolapsus, etc., with Diagnosis and Treatment. By William Allingham, M.D. F.R.C.S.. Surgeon to St. Mark's Hospital for Fistula and other Diseases of the Rectum, etc. Fourth Edition, Revised and Enlarged. With Illustrations.
Philadelphia: P. Blackiston, Son & Co., 1012 Walnut Street.
Cincinnati: Robert Clarke & Co. Price 75c.

[4] "Essentials of Vaccination," a Compilation of Facts Relating to Vaccine Inoculation and its Influence in the Prevention of *Small-pox*. By W. A. Hardaway, M.D., Professor of Diseases of the Skin in the Post-Graduate Faculty of the Missouri Medical College, St. Louis; Member of the American Dermatological Association; Formerly one of the Vaccine Physicians to the city of St. Louis.
Jansen, McClurg & Co., Chicago.
Cincinnati: Robert Clake & Co. Price $1.00.

Original Communications.

GENERAL PARALYSIS.

Read before the Cincinnati Academy of Medicine, October 23rd, 1882,

By **Philip Zenner**, A.M., M.D., Cincinnati.

To the majority of physicians insanity in many of its aspects is a sealed book. Their intimate relations with people of all ranks and all grades of intelligence sharpens their natural powers of discrimination and enables them to say in this or that case, there is a departure from the normal, there is a degree of mental unsoundness. But, as regards the different types of insanity, their development, modes of manifestation and pathological substrata, they are usually not informed. Nor can it be demanded of the busy practitioner that he should possess that special knowledge, whose attainment demands of the specialist years of diligent study, the services of the latter being always at his call. But there is one form of insanity which attacks the most valuable members of society, able-bodied, hard-working, intelligent men, which comes on insiduously and threatens the deepest interests of the family and society, that every physician should know and know well. It is that usually termed general paralysis of the insane or dementia paralytica.

To the intelligent being there is nothing more interesting than observing the development of intellect, to see it budding in the crowing infant and prattling child, unfolding its powers in the youth whose increasing knowledge and growing mastery over self display his strengthening character, or achieving its wonderful conquests in the realms of industry, science or art in the adult man. But the study of this disease brings before us quite an opposite development. We will have to do with the decay, the saddest chapter in the history of intellect. In its retrograde course it will not infrequently remind us of the intellectual status of the infant and the child.

Within the limits of a brief article we will necessarily be enabled to do but partial justice to our subject. Many points we must pass in complete silence. Some, even of importance, can be barely mentioned. Again, others we will try to enter into fully, especially such as are of great practical value, or whose thorough comprehension may be necessary for a proper understanding of the disease.

General paralysis is essentially an affection of the anterior portion of the cerebrum, of that part which the study of comparative anatomy and anthropology indicates to be the seat of intelligence, and which modern experimental investigations indicate to contain the motor centres. And it is morbid manifestations of intelligence and of the motor functions occurring simultaneously and progressing co-relatively that constitute the essential features of this disease.

The pathological anatomy consists of changes in the membranes of the brain, usually most marked in the anterior portions, and changes in the cortex and subcortical region affecting chiefly the anterior cerebral convolutions. The minute changes in the brain substance are still matters of controversy. In this place where we wish to enter into important practical considerations only we will not complicate our study with the many theories and facts in this relation, but content ourselves with the knowledge that the result of the pathological processes is atrophy of the brain.[1]

With the question of causation we will also be brief. The disease occurs chiefly in men, only in adults and at the prime of life. Hereditary influences, or other predisposition to cerebral disease, as former disease or structural defect, seem here to play little or no part. It appears to be caused directly by the injurious influences with which one has to contend in the struggle for existence. We find the disease usually in those who have just been performing unusually prolonged and difficult intellectual work. But as mental overwork scarcely ever has that disastrous influence exerted by passion or other undue strain of the affective life, so we can seldom, if ever, attribute the production of the disease to intellectual strain alone; but will find also a history of unusual excitement, of anxiety, or perhaps most frequently of great disappointments. In proof of the overwhelming weight of these factors the disease is especially rife after great financial crises or political revolutions. The importance and frequency of these causes are universally recognized. Some believe that alcoholism, excessive venery and syphilis (?) are frequently causes of the disease. It occurs with different degrees of frequency in different nationalities. In the highlands of Scotland and Ireland its occurrence is rare. Steinen declared that it is hardly known in Java. Its infrequency has been ascertained in some colored races. Altogether it can scarcely be doubted that it is most frequently found in the most highly civilized countries, just as it is most frequently found in highly intellectual individuals.[2]

We come now to the symptomatology, the most important part of our subject.

He, who has previously been active and diligent in his business transactions, is observed to become listless in his manner and careless of his affairs. Instead of going to his place of business he lies listlessly about the house, or he appears to be absent-minded, forgets his hat and cane, or perhaps takes an entirely purposeless drive. It is usually said that at this time his memory is already weaker, as he cannot recall the events of the day, cannot tell what he has just eaten at a meal, etc. But, we would little comprehend his mental condition should we attribute such occurrences to mere impairment of memory. The latter, as ordinarily understood, is as yet unaffected. The events of a past time can be as readily recalled as ever before. It is only of present occurrences that he takes little cognizance and has no recollection. It is because his power of attention is beginning to fail that he notices only slightly things about him, and therefore does not remember them. In this disease the highest faculties of intellect are first to fail. Memory can scarcely be called one of its highest faculties. See the many gifted men with but ordinary memories, and occasionally a but poorly gifted individual with marvelous powers of recollection. But the powers of attention, concentration, abstraction, are most marked in the highest intellects and when the mind is in its best condition. Our patient, in whom these high attributes are failing, is in the condition of a day dreamer. He but follows the association of ideas as they uncontrolledly flit through his consciousness. He has lost the power of attention which brings things singly into consciousness, and makes them to be easily remembered.

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[1] In advanced stages of the disease the atrophy is very apparent. Meynert has further established, by weighing separate portions of the brain in a large number of instances, that the atrophy is most marked in the anterior cerebral convolutions. The pathological processes that lead to such atrophy are still subjects of discussion and far from being established. We will mention two of the most plausible theories. The first, that of Lubinoff, is that there is primarily a hyperæmia due to disturbances of the sympathetic nervous system, this hyperæmia causing a mechanical obstruction to the lymph circulation and thence leading to further changes. There is much that speaks for the correctness of this view. The second theory referred to is that the disease is an interstitial encephalitis.

[2] In a paper read at the last International Medical Congress on the "Race Relationship of General Paralysis," the author suggests that the use of the potato for a diet is perhaps the cause of the infrequency of the disease in Ireland!

With the failure of the power of attention is early associated an impairment of the judgment. He mismanages his business. He entertains senseless projects. And soon those delusions begin to appear, which, to the laity, have always been the most noticeable and marvelous features of this diseased, which the French have termed *delire des grandeur*, the delirium of grandeur. Faint indications of this kind may be early detected, but the outspoken delusions are only present when the judgement is entirely in abeyance. At this time anything that is desirable seems possible to him. If the patient be a female delusions are most likely to be be on the subject of dress. Though she be attired in rags she speaks proudly of her silks and satins, of her jewels and precious stones. In man the delusions are usually of riches, of power or glory. In his squalid den he gratuitously dispenses millions, and proclaims himself a prince or a sovereign. And, further, on account of his low state of intellectuality, his delusions are constantly changing.

The grandiose character of the delusions of this disease has been attributed to irritation of the cortical hemispheres. But, it seems to me, an explanation based upon psychological data would be clearer and, perhaps, more correct.

In the great majority of cases a feeling of elation and well being is dominant during the whole course of the disease. The patient never has any feeling of illness but seems to overflow with a sense of health and power. Hutchinson has well insisted upon the fact that temperament is usually but the expression of the state of physical health or bodily comfort. In cases of strutting health with the prevailing feeling of well being we will ordinarily find a sanguine temperament, while a melancholic is perhaps the result of past disease or present suffering. No where else so much as in general paralysis does this feeling of physical health so domineer every thought and utterance. It renders the disposition an exceedingly joyous one, and it makes of every vagrant fancy an uttered delusion. The infant, with its sense of muscular power, stretches his hand toward the moon in order to grasp it. The paralytic, who has scarcely more judgment than the infant, and whose weakened intellect, unobservant of external things, dwells only on the *ego*, in his sense of health and power believes that everything belongs to him, that everything is possible to him.

But in the later stages of the disease, when a smile or laughing face is nearly always present, and the most absurd delusions the only utterance, we must not suppose these to express an active joyousness or ambitious projects. He has arrived at that stage where life is scarcely more than animal life, and actions and words scarcely more than reflex actions. We all have seen how happy a mother is when she for the first time sees her infant's smile in response to her own. She thinks she sees a happy soul behind that smile, and knows not that it was merely the reflex of her own act. In our patient, in this last stage of the disease, his smile scarcely expresses a deeper feeling than the infant's. His face is only a mirror of what is passing about him. If you smile before him his face broadens in laughter; if you assume a mournful countenance he breaks into tears. His uttered delusions are but the remembered words and phrases of a former life.

Coincidently with the impairment of the intellect the emotions and the will become equally affected. As the power of observing external things and the judgment become weaker, the higher kinds of feeling, those which give tone to our character, the æsthetic, the ethical, etc., become fainter, and only the lower, the transitory, those excited by sensuous perceptions, arise in the consciousness. The will yields equally. Actions become impulsive, responding to the fleeting emotions, the controlling influences, which give their determined and purposive character, being lost. We can thus easily account for the impulsive and irresponsible actions of the paralytic, and have only to add that the intensity of his emotions and the energy of his actions have also become much enfeebled.

We have now reviewed the general changes in the intellect and character of the paralytic in their gradual decay. We have attempted to view them from the higher standpoint of their psychological causes, as learned from the natural development and decay of mind. We have given no full description of his mental condition, of the many delusions he may entertain, of the mental weakness displayed, as much in the easy manner in which he is diverted from his schemes as in the schemes themselves, in his utter incapacity to judge of the acts and motives of others as well as his own, and, further, of his defective moral sensibility and of his apparently motiveless actions. We cannot pretend to give a full description of this ever-varying picture. To do that it would be necessary to mention all the possible conclusions of a weakening judgment, all the feelings of a narrowed egotistical existence and all the actions of a wavering mind. But, where it exists, the competent observer will be able to recognise the picture of mental weakness. For he, who has learned to know the springs of human actions, who knows something of the capabilities of the human mind, will be able to judge whether the performances of the individual correspond to the ability with which he has been hitherto credited, whether his actions are prompted by such motives as in a normal mind.

We come now to the second set of symptoms, the motor phenomena of this disease. These are are of great interest for they recall and corroborate facts gained by experimental investigation. The paralyses are cortical in their origin. Experiment has shown that cortical lesions leave but very slight paralyses, which are chiefly manifested in complex movements. This is the exact character of the paralyses of this disease. They are mostly not readily observable, and are brought out by complex movements requiring the delicate play of muscles. The paralyses usually observed are those of the facial muscles, dilatation of the pupil (usually on the same side as the affection of the facial, and that generally on the right side), and tremor of the lips and tongue. Of these we will again speak when on the subject of diagnosis.

We have said that the above are the usual paralytic manifestations of general paralysis. We might add they are in the great majority of cases the only paralyses due to the cerebral lesions. But—and here we are approaching the most inexplicable part of our subject—in very many cases of this disease there are spinal as well as cerebral lesions. It is a striking fact that in the most common of the organic diseases of the cord, locomotor ataxy, cerebral symptoms due to lesions of the optic, third, sixth, and other nerves are often present, and in this, the most common organic disease of the brain, spinal lesions are frequently found. For the connection of the spinal with the cerebral disease, as in the other case the appearance of the cerebral symptoms with spinal disease, there has as yet been no satisfactory explation.[1]

The spinal symptoms are mainly those of paraplegia. The impaired gait may be like that of locomotor ataxy, due to incoordination of movements, or the spastic gait of spastic spinal paralysis, or merely a weakness of the muscles not characterized by either of the above types. The pathological anatomy is sometimes that of typical locomotor ataxy, sclerosis of the posterior columns. Sometimes myelitis of the antero-lateral columns.[2] In cases with the symptoms and pathological changes of locomotor ataxy, the cerebral symptoms of that disease, myosis, paralysis of the occular muscles etc. are often present.

The spinal symptoms may precede those of mental derangement, but more frequently they occur later. Westphal, who discovered that the absence of the patellar tendon reflex is nearly always a sign of disease of the posterior columns of the cord, has enabled us to detect spinal lesions even when the symptoms of such disease are not present. He has thereby been enabled to determine that spinal disease occurs more frequently in general paralysis than is usually supposed, and has proven on the post mortem table the correctness of the diagnosis of spinal disease where during life there was no spinal symptom.

Before concluding the subject of symptomatology we will mention afew facts, exceedingly important in themselves, but of which our limited time will allow but the mere mention, that is the occasional occurrence of epileptic or apoplectic attacks, and the not infrequent outbreak of acute maniacal excitement.

The occurrence of peculiar disturbances of vision, first noted by Fürstner, and since then by a few others, and the effort to bring them in relation with certain changes in the cortex, have an interest for the physiologist, rather than any clinical importance.

We must now enter into that part of our subject, practically so important, the diagnosis of the disease.

When the patient has become a maniac, when his speech consists of mere utterances of his delusions which amuse even a child, the physician is no longer called upon for a diagnosis, though even then mistakes of a kind to be later mentioned are sometimes made. The family no longer needs his advice to avert financial ruin or personal calamity, and the patient has probably been removed for safe keeping to the asylum of the alienist. It is in the inception of the disease when the weakening judgment, the germinating delusions of the one still considered by society as a responsible agent is leading him into ruinous enterprises and senseless extravagancies, possibly to be attended by an outbreak of madness which threatens human life, that the ready perception of the physician, a correct diagnosis proves of inestimable value. And at this time a correct diagnosis is peculiarly difficult.

In the beginning the changes are usually slight such as are only noticeable to those intimately acquainted with the patient. There may be some change in his disposition, but what is especially noticeable is that he does not observe and take interest in things as before, neglects his own affairs. Already there is some impairment of the intellectual faculties. But the examiner must be pardoned if he can not yet detect a slight defect in one whose mental powers equal, and possibly surpass his own; for, as we have already stated, it is the gifted, the intellectual, who are most frequently affected. At least the practitioner will require all his acuteness to enable him to form a correct estimate of the mental condition of his patient at this time. He must rely partly on those who know the patient intimately, as to changes in his mental status. He must observe whether there is an apparent spirit of boastfulness, not formerly present (the first indication of the delirium of grandeur); try to determine whether the patient can perform higher intellectual tasks, mathematical, conversational, etc., as well as before, test patient's memory and reasoning powers, in short test patient's intellect in every possible direction. If the disease be already well advanced his task will be easy, in the beginning, it may be beyond his power. At the same time he must look for motor symptoms, differences in the pupils, paresis of facial muscles, tremor of lips and tongue, or difficuties of speech.

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[1] The explanation that when the posterior fasciculi are affected, there has been ascending disease from the cord when the lateral columns are affected, descending disease from the brain to the cord, is not tenable There has been no anatomical evidence of such a continuity of disease, and clinical histories are often not in accordance with such a development.

[2] In the last number of the Archiv f. Psychiatrie und Nerven krankheiten, Zachler reported a case with the ordinary manifestations of what has been termed spastic spinal paralysis, peresis muscular rigidity exaggerated tender reflexes, etc., in the lower extremities, in which he found no changes in the cord. Hence, he has claimed that these symptoms may be due to cerebral rather than spinal diseases. Although the set of symptoms just mentioned which Erb and Charcot have attributed to disease of the pyramidal tracts in the cord have not yet with certainty been associated with any exact pathological changes, yet in the great majority of such cases, where post mortem examinations have been made, very decided spinal lesions have been found. So that, notwithstanding the above mentioned case, I believe, we need not hesitate to assign that complex of symptoms to spinal, and not cerebral lesions.

If these and the mental symtoms are observed (and fortunately for the diagnosis the two, even in the beginning, are usually found together) the diagnosis, even in the inception of the disease, is established with a high degree of certainty.

The paralytic symptoms, as before mentioned, are very slight and may be difficult to detect. If you will permit we will dwell briefly on the best methods of making such slight manifestations cognizable. To detect slight differences in the pupils let patient look at some surface evenly lighted, as the whitened ceiling, and the observer stand in such a position as not to shade either eye. If the facial paralysis is not observed in the drooping of one corner of the mouth, or the less prominence of the naso-labial fold on one side when the face is in a state of rest, slight changes of this kind may become more distinct after the patient has spoken for some time; or may be made apparent through his squeezing the hand of the physician, when the involuntary facial expression thus elicited will reveal slight differences in the muscular innervation of the two sides of the face.

The ordinary modes of detecting facial paralysis, by the patient exposing his teeth or laughing, are such coarse movements that they conceal rather than reveal the slight motor defects. The tremor of the lips and tongue can also be best detected after the patient has been speaking for some time.

But the best test of slight changes in the speech making organs, and one of the most reliable of the diagnostic symptoms, is the affection of speech. We do not find the scanning speech so characteristic of multiple sclerosis, but one of a different character. There is a kind of stumbling in his articulation. Words are brought out with difficulty, and are frequently cut short, letters or entire syllables being clipped off.

We repeat, such slight paralyses are characteristic of general paralysis. Only at a late period does the tremor of lips and tongue sometimes become excessive, the speech become altogether unarticulate, or the facial paralysis very decided. As regards the other motor symptoms, of spinal origin, they will seldom aid us to make a diagnosis of general paralysis.

Let us consider the distinctive character of the delusions of this disease. The *delire des grandeurs* occurs in other kinds of insanity, but there is something distinctive of it as here manifested. In other forms of insanity, where the delusions of greatness are present (excepting in some forms of dementia, kindred to general paralysis, to which we will later refer) the delusions have a certain logical basis, and are more or less permanently in one form. If one believes himself to be a prince, that delusion is based upon some erroneous conceptions, which have become a part of his mental existence, and will remain steadfastly with him. But in our case, as already stated, those delusions result from an entire absence of judgment. They are the mere expression of a vagrant fancy. They are characterized by their senselessness and their variability.

Complications which may make the disease difficult of recognition are the occurrence of apoplectic or epileptic seizures, or an outbreak of acute mania. Sometimes the disease is ushered in by one of these conditions. In that case a diagnosis is, as yet, impossible (though in some cases, even during the period of maniacal excitement, indications of mental weakness, or the presence of the peculiar paralyses will reveal the true condition). If such a complication occurs during the course of the disease the diagnosis must be based on the previous history.

We must now speak of the diagnosis of the fully developed disease. First in importance and frequency, among the diseases which may be confounded with it, is alcoholism. Chronic alcoholism may produce all the symptoms of general paralyses. Or the two diseases are not infrequently present at the same time. In cases of chronic alcoholism with symptoms of general paralysis we must abide by the rule so often imposed upon us in obscure cases, that is, allow of a certain lapse of time before making a diagnosis. The importance of this rule in such cases can not be overestimated. For want of it mistakes are only too frequently made.

A second class of cases which may be mistaken for general paralysis is that where coarse lesions of the brain, most frequently due to hemorrhage or embolism, are followed by dementia. In such the paralyses are usually more decided than in general paralyses, and point to a focal lesion. But the history will settle the diagnosis.

There is another class of cases, but a very rare one, in which a correct diagnosis is far more difficult; that is, cases of localized meningitis (usually primarily pachymeningitis, perhaps hemorrhagic) occurring especially in the neighborhood of the central convolutions. That cases of this kind are often classed under general paralysis can not be doubted. The diagnosis is often impossible. The course of the disease will alone (but not always) be able to clear it.

Lastly we will only mention multiple sclerosis and cerebral syphilis, instances of which diseases being sometimes exceedingly difficult to distinguish from general paralysis. We must look for special symptoms of these diseases, and if these will not determine their character, we must again rely upon the course of the disease.

We have frequently mentioned the "course of the disease." This is clinically of the greatest importance. We know the disease rather by its course than its symptoms. The spmptoms may be found in various other conditions, but the disease has a particular course, peculiar to itself. Its average duration is three years. It almost invariably terminates fatally. Its duration is usually longer in woman than in man, longer in cases of a melancholic type than in others; and in some cases in which there are periods of improvement or apparent recovery its duration is indefinite. There is usually a gradual progress in all the symptoms, mental and motor, from bad to worse. Sometimes there are sudden and rapid changes, as an apoplectic attack followed by a considerable increase of the dementia; sometimes an improvement of indefinite duration. Death is sometimes caused by a gradual failing of all the bodily functions; more frequently it is caused by an apoplectic attack, decubitus, pneumonia, tuberculosis, or disease of the bladder or kidneys.

In the preceding description we have given the symptoms of the usual or classical type of the disease. Other symptoms may be present producing quite a different appearance from the ordinary picture. Sometimes instead of the usual slow manner of thinking and acting, there is a very flood of ideas, an unusual vivacity in thought and manner. Not infrequently there are outbreaks of maniacal excitement, when, it must never be forgotten, the patient becomes dangerous to his surrounding. Again we meet with conditions of mental depression. There are cases in which a depressed hypochondrical state of mind marks the whole duration of the disease. In some instances delusions, usually so characteristic of this disease, are never detected. Hallucinations may or may not be apparent in a particular case. Spasmodic muscular affections complicate the history in some instances.

And so we might add other symptoms which give peculiar appearances in certain cases. But, and this is the important part which can not be too much emphasized, whatever the clinical manifestion presented the diagnosis is based upon the impairment of the intellectual faculties, and the peculiar paralyses, and is confirmed by the course of the disease.

The following cases are very briefly described to illustrate the preceding remarks. Cases illustrative of the incipient stages of the disease would be more valuable, but the material is lacking. For the opportunity to examine these patients and their histories, I am indebted to Dr. Harmon, of Longview Asylum:

T. D., age 34; bank clerk; duration of disease two years; excessive venery, also addicted to excessive use of alcohol. The first history of mental disorder is that of delusions of various kinds. His speech was soon observed to be slow and hesitating, his talk foolish, did not recognize his surroundings, believed himself to be in a barracks. Habits filthy.

At the end of eighteen months he had an attack of durable hemiplegia. Since then more pronounced delusions, especially of wealth.

Present condition. Secondary contractions and rigidity of muscles of right arm and leg. Facial paralysis in the right side. Right pupil larger than the left. Tongue tremulous. Speech indistinct. Mind almost a blank.

In this case the diagnosis is based on the history. The dementia is the only symptom present pointing directly to general paralysis. The high degree of paralysis would, were it not for the history, lead us to exclude this disease. It is one of these rare cases in which an attack of hemiplegia, occurring in the course of this disease, is durable. The subsequent contractures lead to the inference that the disease has been complicated with a cerebral hemorrhage. Yet purely cortical lesions have appeared in some cases to produce secondary degeneration of the pyramidal tracts, with subsequent rigidity of the paralyzed muscles. We will again call attention to the fact that the mental condition became rapidly worse after the attack of hemiplegia.

G. R., age 35, farmer, married; duration ten years; cause unknown. In the beginning it was noticed that his actions appeared to be aimless, that he appeared to be always contented and happy, was always smiling. Soon observed delusions of wealth, also tremulousness of lips and tongue, and difficulty of speech.

Present condition. Paresis of facial muscles on the right side. Tremor of lips, tongue and hands. Gait feeble. Can obtain no utterance from him. He appears to be entirely demented.

In this case there is the typical history, but the complete silence, and the absence of every facial expression, are unusual in this disease. We can only account for them by supporting complete dementia.

PYEMIA OF MANY YEARS' STANDING, FROM CONCEALED ABSCESS, CAUSED BY A WISDOM TOOTH.

Read before the Cincinnati Dental Society. Nov. 14, '82.

By R. J. Porre, D.D.S.

The history of the case, in some of its prominent features, is as follows.

J. McD., in the latter part of June, 1882, consulted a physician of this city for treatment. His age is fifty-two years, of rather light build, nervo-sanguine temperament, very muscular, and in his early life somewhat noted as an athlete, inheriting a powerful constitution and free from hereditary taint. From his youth he had been employed in active business. Had served from the beginning to the end of the late sectional war. Was proprietor and master of a steamboat for four years, having to abandon it on account of his health. Then, in a short time, he was appointed to an important office under the Government, which he held for eight years.

For thirty years he had been a great sufferer, both mentally and physically, and was often forced to take to his room and bed for weeks and months at a time, for treatment and recuperation. And that at *no time* during that period can he recollect that he was free from pain in some part of his body. He recalls that his affliction began with inflammation and swelling on the right side of his face and head, to the extent of closing his jaws and forcing him to liquid diet for a week or so, being the victim, meanwhile, of intense suffering. In a short time after the swelling subsides, tumors or boils appeared on different parts of his body, some of them secreting and discharging surprising quantities of pus, and that they have continued in an uninterrupted series to form, either singly or in groups of six or eight, furuncular in class, invariably containing abnormally large cores, which at proper time would be removed, leaving receptacles for the secretion of pus or a sanious fluid which continued to discharge for months before subsiding, and then only to give place to others on other parts of the body, of like character. His hands and feet were constantly involved with an itching and burning eruption, or were a mass of boils and degenerated and sloughing tissue, rendering him utterly helpless for many weeks at a time, and exciting, during some attacks, alarming apprehension that he would lose one or both hands, or one or both feet or portions of them. The throat and vocal organs were frequently so implicated that he was forced to communicate his wishes in a whisper or in writing. Respiration was at periods, difficult and painful, from spasmodic contraction of the diaphragm and muscles of the throat. Bowels almost constantly, for twenty or twenty-five years, so constipated and so seriously complicated with spasmodic constrictions (notably, of the pyloric orifice and duodenum, producing the sensation of a plug as he described it,) when, after several days, sudden relaxations would give relief. It was necessary that daily resort be had to artificial aid in the evacuation of the bowel, either in the use of purgatives, injections, or the bougie; and very often all of them utterly failed to evacuate the fecal accumulations under persistent effort for days. During the same time to effect urination, the catheter was daily required, or the bougie to dilate a most painful and obstinate spasmodic constrictions of the urethra. Phenomenally profuse and consequently exhausting night sweats from time to time have been persistently combatted by all approved remedies without avail, or with but slight mitigation. Fevers varied in intensity and duration according to the severity of the complications and constitutional conditions, at times intermittant for weeks. A fact I will here mention, as important in reporting this most extraordinary case, is that from the first attack these pains were severe and lancinating, always originated and irradiated from the right side of the inferior maxillary, and that like electric shocks, involved not only the nerves and tissues in that side of the face, head, and neck, and sent stiletto like thrusts through the diaphragm, the bowels, the bladder, the limbs, hands and feet, and with most poignant severity always pierced the most inflamed and tender lesions. This should have led to an investigation of the jaw for the cause, but it did not.

The patient was put upon a vigorous mercurial and potassa iodide course of treatment for thirty years, with but trivial interruption, and has never been benefitted, except, perhaps, when under a temporary course of tonics to place him in condition to resume the regular course again.

On the 30th of August last the patient was sent to me to examine the teeth of the right side, for the cause of the then unusually intense, and quite unendurable pain. His physician, while treating his throat, had pressed the gum in the region of the wisdom tooth on the affected side, and accidently discovered the exudation of a small quantity of pus, and naturally surmised that it was an indication of a lesion that was, perhaps, the cause of his pain. Although I had known the patient for fifteen years in another city, and had knowledge that he was afflicted with boils and eruptions, it was at this visit that I first obtained a limited history of his case. Upon examination of his mouth I discovered no appearance of abscess or inflammation, but observed the imprint of the tooth on the cheek, evidencing atony of the tissues. Pressure upon the outside of the cheek showed tenderness and and a slight fullness opposite the wisdom tooth, or location of the wisdom tooth, and base of the ramus, and extending back and down to the angle of the jaw. I saw no wisdom tooth, but upon percussion found slight tenderness in the second molar, and while testing for caries in the crown and drawing the point of instrument over posterior proximal surface, felt what proved to be a partially erupted wisdom tooth. By the aid of a mouth glass I discovered that not more than two lines of the anterior grinding surface was exposed to view. It yielded under pressure, showing its detachment from the alveolus by absorption, and the gush of sanious fluid unmistakably revealed the cause of absorption. At once I declared my conviction to the patient, that the fountain head of all his physical wretchedness and torture was unmistakably discovered, and from that hour his treatment for syphilis, which he was then under, should be changed to that of anti-pyemic; and I requested him to so advise his physician. The tooth was immediately removed from its pocket-like investment. The root, as anticipated, was almost entirely absorbed; as the operation had been somewhat painful, I desisted from further examination and syringed the abscess and dressed with a pledget of cotton saturated in dilute carbolic acid and tinct eucalyptus, and dismissed him with a request to call next day to have the sack treated and again dressed. Being greatly debilitated, and suffering with an unusually severe series of spells with his constrictions, crampings of the diaphragm, etc., exhausting night sweats, in a word, all of the complications, as he described it, had concentrated in force and set upon him at once with relentless fury, to annihilate him. So he did not again call until August 11th. I found the soft tissue socket open as upon the day I removed the tooth. After syringing I introduced a curved pointed steel instrument, to test the condition of the alveolus, and not only found it carious, but found a section of the bone involved from opposite the posterior line of the second molar back and down quite to the extreme angle of the jaw. Puncturing through carious bone as I proceeded to the depth of one and a half to two lines to the solid bone. In my survey for the limits of the area diseased towards the lower margin of the jaw, most unfortunately I punctured or wounded the inferior maxillary nerve. It was evidently dissected as it were, by action of disease from its investment, and lay isolated and exposed to the point of my instrument. The application of a lotion composed of chloroform, zinct aconiti, morphine, spts camphora, and carbolic acid, soon gave relief. I did not venture a possible repetition of the infliction, I told the patient that before relief could be promised the carious surface must be removed, and that there were two methods of accomplishing it; one was to burr it off with the dental engine, the other was to destroy it with sulphuric acid. The first would require the extraction of the second molar, to which he protested if it could be avoided, as the organ was sound, so I readily decided upon the other, as I preferred it, for having tried it under like circumstances in the destruction of carious and necrosed tissue, and proven it more efficient and satisfactory than any methods with instruments, consequently I rolled a piece of linen lint (cotton will not answer, as it dissolves almost instantly) into a ball the size of a green pea, and after having absorbed fluids from the sac, took the ball with curved pliers and saturated it in pure sulphuric acid and applied well down and over the carious surface. For an instant or two after application no unpleasant sensation was felt. I was anxiously watching for results, when like a thunder bolt the inferior maxillary nerve yielded to the mastery of the powerful agent, and sent a thrill of agony through every tissue and fibre of the body. But a prompt application of the obtundent again (and forever in that locality it was hoped) gave relief in a very few moments. There was, of course, destruction of the soft tissues to a limited extent. This was desirable. Not only the distruction of the carious bone was required to produce a cure, but healthy action in the connecting tissue was also indispensably required, and nothing locally could accomplish it more effectually or satisfactorily than through the escharotic, and stimulating effect of the agent used. It will be recollected that there was marked degeneration or atony in the muscular tissues of this locality, but there was no lack of nerve sensibility or reaction, rather a condition of hyperasthesia. The patient was dismissed with a request that he call daily to have the sac cleansed and dressed.

Sept. 15. Examined surface of bone, found here and there slightly rough, indicating that the action of the acid had not been effectual, so I repeated the application, which was followed by quite severe pain for a time until the obtundent soothed the parts into quiet.

Sept. 18th. I removed particles of dead tissue, the effect of first application of the acid, which were detaching, and exposed faint evidences of granular formation. A pointed instrument drawn over the bone revealed a perfectly smooth surface, excepting at the extreme lower terminus of the sac at the angle of the jaw, there was a small spot of carious surface remaining. I saturated a pellet as before, the size of a duck shot, and conveyed it on point of the instrument until I met resistence, and left it, to add to the beautiful effects already so satisfactorily accomplished, this time giving no pain whatever. The patient now being relieved from the cause and under treatment for its effects, though so short a time had elapsed, improvement in the general constitutional conditions were decidedly apparent. The greatest change of all, however, was lifting from the mind the terrible apprehension of an early anticipatied and an inevitable fate. Hope now took the place of despair. Being naturally vivacious and buoyant in spirit, the patient now gave full range and expression to his feelings and convictions, in the bright expectation of a final recovery. One of his outburts was: "Thank heaven, the battery in my jaw is silenced, the pains are like sentry shots, only now and then, and insignificant." He was assured that repair would be slow, that time would be required for artificial assistance; more than all, the asserting and powerful forces of nature, to eliminate his heavily surcharged system from the poison and its consequences.

Sept. 28. The patient, as usual, calls daily. Has actively resumed his vocation, walking several miles daily, appetite excellent, digestive organs fully responsive, sleeps sound and refreshingly all night. Has occasional shooting pains through his body and limbs, which he designates as farewell shots. Has yet to depend upon purgatives, though light mineral waters, to keep his bowels evacuated. Every condition connected with the sac as favorable as could be expected. The pus secreted is healthy and not excessive, the surface of the bone being entirely free from the least vestage of caries—smooth as glass, and the walls of the opening as far as can be explored with the aid of a mouth mirror, are lined with granulations. The processes of repair are excusably slow, but every day there is an advance. There is entire absence of pain in that side of the face. The second molar, upon test, is free from tenderness. Altogether the progress is phenomenal.

Oct. 10. The posterior terminus of the sac is filled and the walls studded with full healthy granulations. Improvement is marked upon every feature of the case. The first glimpse of the patient as he calls from day to day, reveals the astonishing and not less pleasing change in mind and body. Reporting that, although working hard every day, he feels splendid, and physically capable of almost any amount of endurance.

I will mention in this connection that the patient, through the gift by inheritance of a wonderfully strong and healthy constitution, backed by an equally pronounced and uncompromising will force, and brave and resolute heart, has unquestionably, alone, carried him through his fearfully trying ordeal of a thirty years' struggle with this hydra-headed monster of diseases. Ten thousand ordinary men would long since have succumbed, had they been subjected to the same contest and under like circumstances, proving that determination, will force, concentrated will force, is almost omnipotent over the disease ravages of the body.

Oct. 25. There remains but a small inverted cone-shaped cavity at the external opening of the recent abscess sac. I will take occasion to state that I claim no credit in the discovery of this cause, for I had a pointer. Pus had been discoverd in that locality and it was plain that there was a producing cause. It was for me to find it. A word now, in reference to the tooth. When discovered, as heretofore stated, three fourths or more of its grinding surface was covered with gum tissue from posterior margin forward. It may have erupted high up, from the base of the ramus, tilting the crown forward and against the second molar, producing pressure and consequent restriction in its growth, and from that cause, producing inflammation, suppuration, and after a time, absorption of the alveolus and the root, liberating it to float in the pus and act as a valve in preventing quite, or almost entirely, the escape of the secretion in the abscess. This growth of wisdom teeth is not common, yet I have seen several. Nature gives us many freaks, this may have been one in this case, or in not fully erupting, yet occupying a normal position, may be one, and as it erupted well back and near the base of the ramus, consequently, under the thicker folds of tissue, it may have grown to a point to produce these complications, and then for some cause stopped. So it was, that it never fully or normally erupted, or it would not have been so nearly covered with tissue.

It is the experience of the largest proportion of mankind to suffer more or less when erupting the wisdom teeth. We are often required to administer to, or operate for, the relief of most distressing cases. I regard them the most troublesome and dangerous teeth in the adult mouth, for the above reasons, and from the fact that they ordinarily decay while, or soon after erupting, and by the timid or indifferent, allowed to remain and become the cause of abscesses, and from their location, often during the period of inflammation and suppuration, the most serious complications are experienced.

I wish here to express a conviction entertained for many years and manifested and enforced in my practice upon all occasions, and that when I could not treat an alveolar abscess successfully, arising from whatever cause, I have urged, and that at once, the removal of the cause. For the reason that I have always been satisfied that more or less of the vitiated secretion was absorbed and taken up by the blood directly, and that unquestionably the almost continual exudations from around the diseased teeth and roots, and through the fistulous openings left by collapsed abscesses, were conveyed to the stomach, and from there diffused with not less virulence and injury in results; and for another not unimportant reason by any means, the suppression of exhalations from the breath. While on this subject I will assert that I am opposed to, the practice of some, of filling the crown cavity and making, or leaving, a tap opening through the root, or plug, for the escape of foul and poisonous gases and secretions. It should be condemned. It is not creditable, it is not in consonance with the elevated stand, intelligence and advance of our profession. The maxillary sinus is not infrequently involved by diseased teeth and roots, inflammation extending through the base to the lining membrane, followed by secretion and infiltration of a sanious fluid and if neglected for any considerable time becomes a cause for grave local disturbance and serious constitutional injury. Finally, I cannot but declare, that a mouth studded with decaying and abscessed teeth contributes, without question or doubt, a prolific cause, in a greater or less degree, to pyæmia. The proof is incontestable from the case under consideration. This subject has proven cumulative, and tediously so perhaps, but regarding it as second to no other claiming our attention, I will be indulged in adding a few of the remarkable characteristic symptoms of our case, that may be noted as additionally important and pathognomonic of pyæmia. The fact is I am puzz'ed in deciding where all of them are apparently of equal interest and importance. However, first, a fact which has been clearly manifested in this case, but was unfortunately overlooked, but which may now be put on record, and will prove an unerring aid in diagnosing cases of similar cause. That all of the tumors were furuncular, as before stated, and every one of them, from the smallest size to the largest, contained cores. Syphilitic abscesses and ulcers do not. You will remember the condition of the hands and feet. Syphilis has no such symptoms. An eruption that quite covered the body, especially the inside of the thighs, legs and groin, and on arms, breast and sides, that upon first appearance the papillæ were red, intensely tender, and passed to a suppurative state, when they itched intolerably, almost to frenzy, not unlike in appearance and characteristics to scabies, entirely disappearing for a considerable period before recurring again. Among the many classifications of eruption syphilis has no such one. One symptom that has prevailed almost from the first of his attack was indigestion, which has not only been the cause of serious functional distress, but grave constitutional derangement. Rarely took food with appetite, forced what he eat generally in order to maintain vitality. He never indulged the habit of drinking except an occasional glass of wine, never used tobacco. He was several times a year suddenly prostrated with paroxysms or convulsions, in which he experienced the most frightful agony, and no one organ involved more than another strange to say, but his whole body from head to foot would be held rigidly in a spasm for an hour or so, when he would lose consciousness for a few moments in a distressing nausea, recovering with excessive vomitings and purgings, and attended and followed by most excessive sweatings. Naturally, of course, leaving him utterly prostrated for several days. These spells have increased in frequency of late years and also in severity. Within the past seven months he has had five, more than ever before in the same time. You will recall he had one of his "spells," as he called them, after his first call upon me, and he stated that it was the worst of his life; the most alarming, protracted and complicated; it was the last one. A remarkable fact connected with this case is that the mind of the patient has never been affected, or long since, he says, suicide would have ended his torture. Though many times hopeless and despairing, receiving no benefit from all the skill employed, yet the mind always rallied through the powerful lever of the will, and so he kept up the contest, hoping for a finally successful issue.

Oct. 29th. The patient declared to sum up his condition altogether, that he was almost himself again; had gained fourteen pounds and is gaining every day; enjoys almost complete immunity from pain, only now and then a little stinging dart through his little finger on his left hand, and his little toe on his left foot. Was at a banquet the night before, ate a hearty supper, made a speech of half an hour, drank a few glasses of wine and felt no ill effects whatever.

Nov. 10th. About a week since abscess commenced forming on the left hand of the patient between the bases of the metacarpal bones of the thumb and index finger, very tender, and in three or four days attaining the size of a prune. The hand is very much swollen, creating some febrile and constitutional disturbance. It now has six or seven openings discharging bloody pus, and has all the characteristics of a carbuncle. He has no indications of others and is generally doing well under the circumstances. The lesion of the jaw is almost entirely closed and void of all further annoyance.

This report has unconsciously lengthened for the reason that there were so many points and phases in the case that were of so much interest and importance. The hope is that it will reflect some light to aid the various specialists and the general practitioner in making diagnoses of cases that have heretofore been perplexing and obscure as to cause, and that they will be impressed with the conviction that pyæmia from some cause, and that the oral cavity is perhaps the most prolific in producing causes, of very many more than heretofore accredited of the diseases, nerve derangements, are surely some of the gravest ills to which flesh is heir.

Nov. 17th. I will add the result and attendant symptoms of the tumor, as it may interest, up to the present. It made its appearance on the 5th inst. and culminated on the 13th. Nine openings in all formed. On the 13th the lancet was used and its contents of core and secretion removed. On the next day it had collapsed, the swelling had left the hand, and its use entirely restored and was absolutely free from tenderness. The secretion has been inconsiderable in quantity, parts healthy and healing rapidly. There was considerable distress in the region of the pyloric orifice during the time, and shooting pains irradiated therefrom, strange to say, to his hand and foot, involving the head and other parts only to a limited degree. There was unquestionably a reflex action occasioned through the derangement caused by the tumor upon the hypersensitive diaphragm and contiguous organs, and thus a fusilade was kept up between the two points. The temporary trouble of the bowels subsided immediately after the extirpation of the core, and he is again on the rising plane of improvement. The remarkable feature will be readily observed, as to the short period between the appearance of the tumor and its culmination and the almost magic subsidence of all its complications, exemplifying most conclusively the relation between cause and effect.

278 Race street.

CORRECTION.—In the report of Dr. McReynold's case, page 495 of last number, (Nov. 18th) read *conoid* instead of "coronoid".

THERE were fewer deaths last week in Paris from the typhoid epidemic than the previous week, 173 being reported, against 244 and 250 the two previous weeks; in other respects the numbers are nearly the same.

A CASE OF FRACTURE OF THE CRANIUM, WITH EXTENSIVE DESTRUCTION OF BRAIN SUBSTANCE, TREPHINED AND SUCCESSFULLY TREATED.

By R. B. Hall, M.D., Chillicothe, Ohio.

The facts given are from notes of the case made at the time.

George W. P——, aged thirty-seven, occupation, railroad bridge carpenter, while at work on a bridge September 23, 1878, slipped and fell a distance of about twenty feet, striking on his head on some loose rock.

He was unconscious when picked up, and remained so for half an hour, but when I saw him one hour after the accident he answered questions in a dazed and mechanical manner.

When asked if he suffered, he complained of severe pain in the head. I made an examination of the part, and found a punctured wound of the scalp, about half an inch in extent, through which blood and brain matter were being discharged.

On introducing a probe through this wound, I felt sure that portions of the fractured bone had been driven into, and were lodged in, the substance of the brain.

The pupils of his eyes were dilated and were in no way affected by the influence of light.

Such being the state of the parts, I considered it necessary to resort to operation for the removal of the fractured portions of the bone.

The patient having been brought under the influence of ether, assisted by my brother, Dr. W. A. Hall, and Dr. George Stockton, I made a crucial incision in the scalp, through the wound.

On raising the flaps, a considerable quantity of blood and brokendown brain substance escaped, and an oblong fracture of the vertex of the cranium, two and three-eights inches long, by one inch in width, the center of which was in the right parietal bone one and a half inches posterior to the coronal suture, its long dimensions extending from the sagittal suture toward the right ear.

One large piece of bone with a couple of fractures across the surface, but all united, corresponding to the size of the opening in the cranium and partly attached to the edge of the fracture, with the free extremity piercing the dura mater, and embedded in the substance of the brain.

The opening in the cranium being the narrowest at surface, and thinking I could elevate or remove the piece with less damage to the brain, I cut out with the trephine about three-fourths of a circle of bone, and attempted to elevate the piece previously described: but it broke entirely off from its attachment, and also separated where it had been previously fractured, and I removed it in four separate fragments; the four fragments exactly corresponding with the opening in the cranium; there was blood flowing from the wound, and after the bone was removed the hemorrhage was increased but on exposing the brain to the air, the bleeding gradually stopped. During the time the brain was exposed to view it was seen to rise and fall synchronously with the pulsations of the arteries, but there was no movement synchronous with expiration or inspiration.

At this time the man vomited and each time he did so a mass of brain matter was made to bulge out through the aperture in the bones, but receded again on the cessation of each act of vomiting.

The bleeding having ceased the flaps which I had made in the scalp was brought together and secured by means of four silk sutures, and light carbolized water dressings were applied to the part, after ten days the scalp wound had united except three-fourths of an inch. I ordered an astringent lotion of "Sulphate of Zinc," this was used from October 3d to the 13th of the same month, but as about half an inch of the wound in the scalp had not yet healed, I applied some unguentum resinæ to the part; under which treatment the whole of the wound speedily healed. In a day or two afterwards, October 22d, he was able to walk out with his common sensation; his mental operations, his organs of special sense and his motor powers neither lost nor in any way impaired.

The state of the temperature, pulse, and respiration during the entire time he was confined to his bed was not at any time much above normal. In two months from the time of the accident he was able to resume work, and has continued at work ever since, and to-day he is employed in one of our neighboring towns in an extensive agricultural implement factory, and none of his fellow workmen ever suspect that he was ever the subject of such a severe injury.

This case appears to me to be worthy of record on account of the extent and character of the fracture of the cranium, the laceration of membranes, and the extensive destruction of brain matter, and more especially on account of his wonderful and perfect recovery.

Nor was there any evidence whatever, at any period, of inflammatory mischief to the brain proper or its coverings; nor any hernia cerebri, although the brain was supported only by the flaps of the scalp; nor any disturbance or impairment of either common sensation, the organ of special sense, or motor power.

The importance of the case is still further shown in this, that the permanency of the cure has been fully tested by the fact that in all these years since his recovery he has been able to pursue his usual business without pain or inconvenience.

A Novel Use for Pepsin.—Dr. Hollmann (*Nederland Weekblatt*, 18, p. 272), has used an aqueous solution of sixteen grains of pepsin as an injection into the bladder of a patient who had hæmaturia, and in whom a catheter failed to empty the bladder. A few hours later, a dark, viscid, fetid fluid readily escaped through the catheter.—*Medical Record.*

The Oil of Gaultheria now recommended for acute rheumatism is sometimes adulterated with oil of turpentine, birch, and also with alcohol.

Clinical Lectures.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

[Reported by T. R. Coffman, M.D.]

CONTRIBUTION TO THE HISTORY OF TREPHINING BONES FOR ABSCESS —SIR BENJAMIN BRODIE. DISEASE OF BONES.—OSTEO PERIOSTEO-MEDULLITIS, EXOSTOSIS, PYARTHROSIS WITH RUPTURE OF CAPSULE.

Gentlemen: We continue to-day the study of diseases of bones, but before presenting the cases I wish to call your attention to the history of trephining bones for the relief of abscess. When Sir Benjamin Brodie published his cases in 1832 he was not aware that the operation had ever been performed, although Nathan Smith, about the close of the last century, relieved bones by the same plan and something like the operation had been done by David almost fifty years previously. Osteo-myelitis, so often painless, though destructive, did not furnish the suggestion, but an old abscess with acute symptoms, discovered after the limb had been amputated, led Sir Benjamin in the right direction.

One purpose of the saw invented by Hay, of Leeds, was to expose the interior of bones. Petitt trephined for pus about 1740. Two surgeons in America, Walker and Simons, early made this operation; Walker about the middle of the eighteenth century, Simons during the first quarter of this, but it remained for Sir Benjamin Brodie to show that it was as philosophical as cutting soft tissues in quest of deep-seated deposits of pus. Brodie, however, seemed to be unconscious of Smith's operation, nor had he seen Simon's paper published about 1825.

The deep-seated throbbing pain, like that of a felon, though on a larger scale, like a pulsating ischio-rectal abscess, like a coralled collection of matter beneath a dense fascia, might have suggested to him a destructive inflammation, an acute abscess in the cavity of the bone. It required, however, the inspection of a limb which before its removal presented similar symptoms, in the tibia he found "a cavity the size of an ordinary walnut filled with a dark-colored pus."

The trephine justified him and showed him the wisdom of the proceding. He operated in 1826 on Mr. B., a patient twenty-three years of age, and after supplementing the trephine with the chisel, "*some dark colored pus was seen to issue slowly.*" The amount, he says, did not exceed two drachms, but "*from this instant the peculiar pain belonging to the disease entirely ceased and it has never returned.*"

From that time trephining long bones has been recognised as a legitimate practice, both for acute abscess and chronic myelitis, but unfortunately it has not been brought into sufficient prominence, and as a consequence much suffering has been entailed and many limbs have been lost. It must be admitted that our standard authors have not given to it that attention which it deserves as a great conservative measure. I have often urged you in this amphitheatre to study to save rather than to sacrifice limbs.

You will bear with me while I read to you from the XVIIth volume of the Medico-Chirurgical Transactions, Sir Benjamin's remarks in presenting to the Society what he regarded as a new operation. It was original with him. It was essentially new to the profession, for the work of David, of Bromwell Petitt and Hay, of Europe, and Smith, Walker and Simons, of this country, had been virtually lost. The distinguished surgeon said:

"I am not aware that any cases exactly similar to those which I am about to relate have been recorded by authors; and as they appear to me to throw some light on the history and treatment of a rare but very serious disease, I am led to believe that they are not unworthy of being communicated to the Medical and Chirurgical Society."

Abscess of bone, diffuse and circumscribed myelitis, are not, in this country, rare affections, hence I commend with earnestness that you study them.

CASE I. OSTEO-PERIOSTEO-MEDULLITIS.

This boy, from exposure during the winter of 1880—81, was seized with inflammation of the tibia, it might with propriety be called osteo-periosteo medullitis, that is all parts of the bone were involved: the shaft, its envelop, and its medulla. After a comparatively slow course, attended with much suffering, a considerable portion of the bone was lost—was separated and thrown off in the shape of a necrotic mass. The repair in such cases is usually prompt, the old bone is replaced by new, but such has not been the history here. There has been a conservative supply of new bone. At the outer side it is hard and firm and supports him in his boyish activity, but in the centre here you see a gray, raw surface, four inches in length and about one inch in breadth, of soft, spongy, bone—bone of low vitality, constantly disintegrating and throwing off more or less necrotic sand. One thin spicula, two and one-half inches by half an inch, has been separated completely from all vital connection—it is held mechanically—the new bone but partially surrounding it. How can we facilitate recovery? More than one year has elapsed since the section of necrosed tibia was removed and yet this limb is far from a sound condition, ordinarily such a breach, now of more than twelve months existence, would have been closed in as many weeks. There can be no more question about the propriety of separating the necrotic mass than there would be in removing a foreign body, but what can be done with this inefficient osseous tissue in the midst of which is found the dead spicula? It must be destroyed, as was affirmed in the last lecture, and by this destruction provide room for a new growth of bone. I now do this, as you see, with a chisel—from one-eighth to one-quarter of an inch in thickness is removed. From the track of the instrument, in a patient young, and now vigorous and healthy, except this local trouble, osteo-plastic granulations should appear.

CASE II. EXOSTOSIS.

Here, on the hand of a gardener, is a beautiful specimen of Exostosis—a solid tumor sprung from the metacarpal bone of the right thumb—a benign hyperplasia. The growth, the size of a small walnut, is circular but nodular, the surface being uneven, its point of attachment is not more than one-fourth of its diameter, a bony tumor attached, not sessile, but by a small pedicle. This is the simplest form of bone disease or bone degeneration, painless but inconvenient, it can only damage by its size.

The skin is dissected from its surface and by the bone-cutter its base is divided. The dressing will be simple. An elastic bandage to prevent undue flux of blood, limiting the circulation, and by this means inviting inflammation sufficient alone for repairing the wound.

CASE III. PYARTHROSIS, CAPSULE OF KNEE JOINT RUPTURED.

This child, seven years old, comes before us with a discharge of pus from the knee joint, the opening being above and to one side of the patella. The limb, you see, is flexed at a right angle. What care, what treatment she has had I do not know, as she is presented here for the first time; this, however, I learn: the opening through which the discharge is occuring was spontaneous—it was not made by an attending Physician or Surgeon. You can readily imagine what she has suffered, before the tissues yielded from the pressure of a destructive inflammation, the debris pressing for an outlet.

What can be done for this limb? As was said in he last Clinic, the Surgeon is often well satisfied to compromise—to sacrifice the motion of the point that he may save the limb.

This child must be anesthetized, the limb placed at a slight flexion, and fixed at this angle by a solid unyielding dressing. The book-back plan of applying plaster will be best, for the parts will so frequently require dressing. Although we might almost call this *Pyarthrum* a *suppurated* joint, yet there will be for a time a considerable discharge of pus from the wound.

Remember that in electing a position for anchylosis that you should avoid a straight one, one of extreme extension—with a completely extended limb walking is awkward, great advantage is given by a limited flexion. Try the experiment upon yourselves, and you will see what advantage the one has over the other.

Should anchylosis not take place resection and amputation will be left to choose from. The age of the patient and her healthy appearance will doubtless lead to the adoption of the former.

The medical treatment must not be lost sight of in these cases; and so also should diet and hygiene claim attention. Iron, quinine and the preparations of lime, especially the phosphates, are the leading medicinal agents; these must be supplemented by the most nutritious diet, with fresh air and freedom from malarial influences.

GOOD SAMARITAN HOSPITAL. MEDICAL CLINIC OF PROF. JAMES T. WHITTAKER.

[Reported by Dr. W. H. Wenning.]

MULTIPLE CEREBRO-SPINAL SCLEROSIS.

Dr. Bartholomew will read us the history of this case:

Mrs. Tully, æt. 42, native of Ireland, has been married, but has been a widow twenty years. Has one child. With the exception of headache, which has troubled her for years, she was healthy until two years ago.

Patient states that her present trouble began with an ingrowing toe-nail on the third toe of the left foot. She soon noticed sharp lancinating pains radiating from the foot to the hip. These pains, which were always more frequent and severe while sitting or reclining, gradually extended until the entire left side became affected in the same way. The patient states that she soon observed that she was gradually losing the use of her left hand and foot, so that she could not knit and could only go about with difficulty. She has a tremor which is worse on the affected side, although present on both, but which is manifest only on volitional effort. This tremor, she says, dates from the beginning of her trouble.

At present she complains of pain of a dull aching character in the left limb, interrupted by sharp lancinating pains, which are not confined to the affected side.

She also has clonic muscular contractions, which she describes as jerkings of the muscles, and which are relieved by friction and irritating lotions. She has sensations which she describes as needles sticking into the flesh, and complains of cold chills running up the left side.

She is troubled with vertigo at times and stands with her body inclined forward. She walks with an uncertain tottering gait. Her circulation is sluggish and her feet are swelled and œdematous. There is a large indolent ulcer on the anterior external surface of the leg three inches above the ankle.

Her voice has a peculiar monotonous sing-song character. Lately her deglutition is difficult, on account of partial paralysis of the palate and muscles of the throat.

Her rest is broken, her sleep is disturbed with pain and troublesome dreams. She is becoming very emotional, laughing or weeping on the slightest provocation or apparently without any at all.

Gentlemen: You have heard the history of this case. You observe her peculiar physiognomy; it is an expression of surprise. When I ask her a question you notice the singular intonation of her voice, a monotonous, singing voice as the history says. As she sits quietly in her chair you will also observe tremors of the hands, especially in the left. These tremors are present only when she attempts to use her arms and hands, that is, they are volitional. When I ask her to put out her tongue you see that it also trembles. Her eyeballs, however, as I direct her to move her eyes, are not affected. As she attempts to walk she shows the greatest difficulty. This is partly due to mechanical causes, an œdema and ulcer on the leg; but besides this, there is defective innervation, as she also trembles greatly, vibrates in her gait so that she would fall if unsupported. From the history and her present appearance what do you think ails this patient? It is not softening of the brain (as I hear some one suggest) because in this condition the intellect is profoundly affected which you do not notice in this case. Her mind is perfectly intact. Softening of the brain is a term which is used less and less every day. There is in this condition generally an atheromatous condition at the base of the brain, or embolism detached from a thrombus in the heart, as in rheumatism. There is in the case before us no evidence of rheumatism. Unless there is some evidence of mental wreck or paralysis I should hesitate to call this a case of softening of the brain. No! It is rather the opposite condition: hardening, induration or sclerosis of the brain. This is a case, I think, of multiple cerebro-spinal sclerosis or, as the French call it, *sclerose en plaques*—in patches, sometimes also it is called disseminated sclerosis. The hardening does not occur in mass but in patches, and the symptoms depend on the parts thus affected. The symptoms shift with the lesion, hence we might say the disease is kaleidoscopic. If the spine be subject to this pathological condition the lower extremities are affected, if the brain the intellect or the special senses are impaired. This patient dates her trouble from a trauma, an ingrowing toe-nail. This trauma is not only a possible, but not improbable, cause as the injury may lead to an ascending neuritis to set up these severe symptoms in the course of time. The most characteristic point in this disease is the peculiarity of the tremor, being only apparent when the patient makes volitional efforts. As the corpora striata are the points most affected when tremors have been noticed, we might infer that here is a depot of sclerosis. Sometimes the disease begins in the spinal cord, as in this case, when a paresis or a paresthesia precedes the tremor. When the upper brain alone is involved the patient may have derangements of vision, as amblyopia, diplopia, etc., without the tremor. Nystagmus, a common symptom of this disease, is absent here. The tremors coarsely simulate those of chorea, but in chorea they are exaggerated; the patient cannot walk in the severe forms and cannot pass a glass of water to the mouth, as you see this patient does pretty well. The movements in St. Vitus dance are entirely different—more spasmodic and jerking, more fantastic and bizarre. Cerebro-spinal sclerosis is most frequently confounded with paralysis agitans or shaking palsy. Which disease is an affection of old age, but sclerosis belongs more especially to middle life. Shaking palsy is constant, even when the individual is sitting in the chair at rest, and the tremors, instead of being called forth by volition, are entirely stopped by efforts. Paradoxical as it may sound the patient in paralysis agitans must move in order to get rest. In paralysis agitans we have a peculiar piping voice, the childish talk of old age, whilst in sclerosis we have the monotonous syllabic disarticulated voice. The piping voice of old age has been described by various authors as natural to old age. It turns to childish treble, Shakespeare says, and pipes and whistles in its sound. The truth, is it is only natural in such aged persons who have shaking palsy. Hence the fallacy of actors who simulate age by the voice. It is the voice, not of age but of disease. We have then besides the characteristic tremor in sclerosis the characteristic monotone of speech. Sometimes it amounts to a scanning speech. It is a characteristic though not a pathognomic sign of the disease. Another symptom which is usually present, though absent in this case, is oscillation of the eye-ball—nystagmus. This tremulous movement of the eyes is also sometimes seen in cases of extreme nervousness independently of detectible organic disease, but in sclerosis is particularly observed when the patient makes an effort to move the eye-balls. Always look for it and suspect sclerosis when you see it. Besides these signs there is sometimes an epileptiform condition or vertigo, or a disturbance of the special senses as taste, hearing, etc., according to the seat of the lesion in the brain.

Always endeavor to find out the cause of the disease. Sometimes it is found following graver forms of the infectious diseases. Not infrequently it is due to syphilis, but in this affection a funicular sclerosis, as locomotor ataxia, is more apt to follow. In the case before us the cause is obscure. There is no history of infectious disease or of syphilis. There is nothing but the trauma.

Multiple sclerosis is a curious disease. It is only recently that it has been fully described. In older times no mention was made of it, as it was then included under shaking palsy. The sclerotic patches represent an increase of the connective tissue of the brain and spinal cord scattered about in spots and result in cicatrization and consolidation. In consequence of which the brain cells are strangulated and destroyed as evident in abolition or impairment of motion or special sense. Sometimes sclerosis results from the transformation of emigrated white blood corpuscles, the product of inflammation. It is therefore the type of chronic inflammation. In some organs it is called cirrhosis, as cirrhosis of the liver, of the lung, and of the kidney, an improper designation because cirrhosis means only a yellow coloration which is often absent. The cause may be a trauma, where an ascending neuritis takes place, a sunstroke, alcoholism, or an acute or chronic infectious disease. Its progress is usually very slow. The disease may last six to eight years and is occasionally brought to a standstill. But gradually the paresis becomes a paralysis and the patient dies finally of marasmus. A certain percentage die of apoplectic and epileptiform manifestations. The prognosis is therefore unfavorable. Death is only a question of time.

Treatment is of little or no avail. The constant current of electricity may hold the disease in check for a while. Chloride of barium has been recommended but without any foundation. Iodide of potassium has no particular effect, except in syphilitic cases. All that can be done is to keep the patient under good hygienic surroundings, including as main factors quiet and rest.

PHTHISIS PULMONALIS.

We pass now from one of the rarest to one of the commonest diseases.

This young lady before you is very much emaciated. When questioned she says that she has lost from fifteen to twenty pounds of flesh since last April. As the muscular tissue is also involved there is a corresponding loss of strength. The prominence of this symptom established the name of the disease among the earliest writers; the Greeks called it phthisis, the Latins consumptio, which names both mean a wasting. The patient says that in April she also began to have a dry hacking cough, which gradually grew harder. This cough was said to have begun without any evident exciting cause. From time immemorial this disease has been attributed to catching a cold. This common cause of most diseases is now being admitted less and less. We now know that in tuberculosis the disease is due to a parasite which may develop after contracting a cold, as it requires the favorable soil offered by a tumefied mucosa. The third question put to the patient is, did you ever spit blood? She answers No! Although also one of the prominent symptoms of the disease hemoptysis is not by any means always present. It is absent in about one-half of all the cases. Sometimes it is the first symptom. Vomiting of swallowed blood is rare, but the easy spitting of bright arterial blood is characteristic. Although it frequently excites great alarm it does not ordinarily compromise the mortality of the individual unless it becomes too enormous. When moderate, most patients generally feel after it great relief. In this case we have so far only the progressive emaciation and the cough.

Another symptom which may be asked for is pain. Here there is not much except just across the chest. You notice that our patient puts her hand in its localization over the apices of the lungs. This, as you know, is the seat of the disease. In breathing the apices remain more quiet than the middle and base of the lungs, expand less, and thereby offer a safer refuge for the parasite. The left side is oftener the seat of disease than the right. The extent of the disease does not matter so much in prognosis as the fever which always indicates if it is spreading. The presence of the disease in both lungs is not always a criterion of its gravity; sometimes such a patient is in better condition than when only one apex is affected. The gravity rests then with the fever. Pain does not belong to the disease of the lungs but to pleurisy. Irritation of the lungs themselves give rise to no pain, but when they become solidified or excavated the pleura is involved. The pleura is very sensitive. Even the cough does not proceed from irritation of the lungs but from irritation in the bronchial tubes. It is therefore when the disease is nearest the larynx that the cough is most severe. Prolonged hoarseness of voice or aphonia, aside from hysteria, ought always excite your suspicion. In hysteria patients lose the voice at the slightest provocation, but a shock, as, for instance, of electricity, will restore it at once. Moreover there is a whisper different from this where ulceration of the vocal cords is present. With ulceration is laryngeal phthisis, the gravest form of the disease and usually nearest the end.

Our patient has dyspepsia. Dyspepsia is often a forerunner of phthisis. Almost every case has it. The bowels are generally irregular; in the first stage constipated and in the last, when the parasite has been swallowed and caused ulceration, diarrhœa. Which latter is a grave condition.

In females irregularity of the catamenia is a constant condition. As a rule in bad cases they are absent; amenorrhœa exists. Metrorrhagia is an exception. Often the disease is attributed to irregular menstruation, but the truth is the other way. A return of menstruation would be a very favorable sign.

As our hour has expired, and we expect to have much to say about this disease we must postpone the further discussion of its subjective signs to another day.

CLINICAL LECTURE DELIVERED AT THE GOOD SAMARITAN HOSPITAL.

By W. W. Seely, M.A., M.D.

[Reported by Dr. W. H. Wenning.]

Gentleman: In the patient before you, you observe that, owing to a burn received some time ago, the lower lid and part of the skin are entirely adherent to the eye-ball and cornea so that only a small semilunar portion of cornea remains above. The problem is to relieve the deformity, and, if possible, restore vision, at least a part of it. You will notice that the cornea is entirely covered, so that when the skin is removed a large opacity is found. The object is to dissect off the skin from the eyeball and so keep the parts from re-uniting. To accomplish this two plans are to be considered. 1, to use a certain portion of the skin covering of the cornea, turn it under and thus establish a mucous membrane. 2, To transplant the conjunctiva of the rabiton to this eye in order to make up for the defect.

The first step to be taken is to separate the connection between the lid and eyeball to see how it appears when the skin is dissected off. The next step is to restore the mucous membrane if necessary by a plastic operation. If possible I shall endeavor to turn under the portion that is drawn over the cornea. By this much may be gained, if it be only to uncover the cornea. In addition to this I may accomplish more by transplantation.

These plastic operations are always interesting on account of their novelty of adaptation in each case. Much, therefore, depends on individual judgment in the exercise of these operations. Thus good results have been attained by various operators, and large portions of skin have been transplanted and remained. Last winter I operated on a boy by transplantation. I dissected the lid off from the eyeball up to the inner angle of the eye, and placed on it a section of the conjunctiva of a rabbit. The result was very satisfactory, as only one-half of the conjunctiva was lost.

In other plastic operations we usually dissect off a large flap from some portion of the body, allowing a pedicle to keep up its vitality. But large portions of skin have also been entirely removed and retained in their new site. To do this properly it is necessary to keep the part removed at a proper temperature and prevent suppuration afterwards. For this purpose I use a solution of boracic acid in warm water. After the portion has been attached no further heat is necessary, as the temperature of the body is sufficient. The difficulty in making a plastic operation in a case like this, is the curling up of the delicate membrane so that you can hardly tell which part is to be attached. Another object is to have it perfectly clean when laid onto the parts, otherwise it will suppurate and the operation prove a failure. Boracic acid solution will generally prevent suppuration. After having had this patient etherized I dissect off the lid from the eyeball down to the cul-de-sac. You see that the ball is now perfectly clear. We often use the conjunctiva of the same eye but the denuded spot here is too large really to be covered in this way. When the transplantation is made from the eye itself care must be taken that the tension be not too great, otherwise the stitches tear out.

I think here it will be better to transplant from the rabbit. I will have the rabbit etherized. Here, you see, is a goodly portion of conjunctiva. larger than the space to be covered. This piece I fasten by firm stitches, one at each corner, after thoroughly inundating the parts with hot boracic acid solution. This patient was seen for ten days to two weeks, and the transplanted portion remained perfectly adherent, and the lid entirely free.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of October 23rd, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*
W. H. WENNING, M.D., *Secretary*

General Paralysis.

Dr. Phil. Zenner read an essay on the above subject, (see page 503) the following being the

DISCUSSION.

Dr. Whittaker remarked that the essayist had laid particular stress on the symptom of delirium of grandeur, as diagnostic of general paralysis in the insane. The importance of this symptom is generally exaggerated, the opposite condition—melancholy and depression—being very frequent. But as this delirium of grandeur is so pronounced, when it is present, it is more impressive and is therefore considered the most prominent feature. We must look for more important factors in the paralytic symptoms themselves. The tremor of the lips and tongue are very distinct and not difficult of recognition. It may be noticed when the tongue is protruded. The individual has this tremor very marked and looks as if about to burst into tears. The drooping of the angle of the mouth, cited by the essayist, is not a very reliable symptom, as it is found in perfect health. In fact, if we lay less stress upon the symptomatology, and pay more attention to the pathological changes, we are more apt to derive positive information. These lesions are very characteristic and distinctive. They largely concern the cortex, consisting in wasting of the nerve cells, pigmentation, etc. There is a condition of pachy-meningitis which closely simulates it. Often the disease is due to alcohol. The essayist's statement, that the intellect is situated in the anterior portion of the brain, will not be conceded by everybody. There is strong ground for believing that it is devolved from the posterior part of the cerebrum.

It is likewise not true that the victims to this affection are mostly men of the highest intellect. Generally they are the half-educated, the so-called sciolists. This, of course, does not exclude the fact that it is only found in those that are subject to great mental worry; consequently the disease is by far more prevalent in civilized nations than among barbarous people.

The main points are the paralysis, the disturbance of the intellect, not as phenomenal exaltation but often as depression (*verstimmung*) change of disposition. These are the immediate prodromata. Eliminate the tremor of the lips and tongue, and there is yet no further evidence of paralytic dementia.

Dr. Ravogli remarked that in the few cases he had opportunity to witness, he observed always the delirium of grandeur, but it was only brought out after questioning the patient. He would start off in an ordinary manner, but as soon as any questions were put to him in regard to his possessions, etc., he would grossly exaggerate everything. A marked feature is the manner of chewing that precedes the answering of the questions, and then follows the delirium of grandeur. The next step or period is a partial paralysis resembling locomotor ataxia. This is, lastly, followed by camplete paralysis. The patient loses all feeling, becomes perverted in his appetite, squalid in his appearance, dirty in his habits, etc. Very little can be said about treatment. Bromide of potassium is usually given, but the speaker never saw any improvement from its use. The patients generally remain in the asylum for years, gradually growing worse and worse until death puts an end to their miserable existence.

Dr. Young remarked that he was anxious to learn the pathology of the disease, as he had failed to find any satisfactory explanation in any works to which he had access and which he had consulted in reference to cases under his own observation. The pathological explanation given in this discussion by Dr. Whittaker, fully accorded with his own views. In his estimation the difficulty lay in the impediment of circulation in the brain, in consequence of which a general breaking down of the nervous centres was the result. As the nutrition of the brain is affected it causes a wide spread derangement of the nervous centres.

This is evidenced by the fact that all of the muscles influenced by the brain and spinal cord are affected. He knew of a case where a man had these symptoms existing for ten years. At some times they are more marked than at others. He has never recovered.

Dr. Cassat said that the mention made of tremor of the tongue and lips reminded him of the same symptom observed in quite a number of persons whom he examined for life insurance. Out of thirty-three thus examined, twenty were tailors that showed this peculiarity of tremor of the tongue. They seemed to be otherwise healthy, but were rejected by the medical directors of the company on account of this symptom.

Dr. Whittaker replied that one of the first symptoms of fright is trembling of the voice as well as the lips. In fact, the "*vox in faucibus hæsit.*" He agreed with Dr. Young as regards the circulation of the brain in general paralysis. They have been described to consist in a hyperaemic and dilatation of the blood-vessels. The older writers spoke of a chronic inflammation of the cortex. Sometimes there is a fragility of the walls of these vessels. These lesions have been found post mortem and are characteristic of the disease. He attributed the vacant smile and other facial expressions rather to the lesions than to reflex actions. It is sounder and safer to rely upon the lesions than to invoke the speculations of psychologists who are notorious makers of of phrases and words.

Dr. Thrasher, too, was of the opinion that the main interest lies in the pathology of this disease. Perhaps it is wiser to divide this affection into different diseases from the multiplicity of symptoms presented. In some cases the meninges of the brain adhere to the bony parts as well as to the brain itself. In addition to the other conditions, an œdema of the ventricles of the brain, is found. The pathological lesion is not confined alone to the brain but also to the posterior cords. Therefore some authors regard it as an ascending instead of a descending trouble. As the lesions are found in the spinal cord as well as the brain the speaker was of the opinion that they consist in a fatty degeneration of the posterior columns. They may not be observable if the preparation has been immersed in alcohol but may be recognized if bichromate of potash is used.

Dr. Zenner said, in answer to the statement that the seat of the intellect was to be sought in the posterior and not in the anterior part of the cerebrum, that he meant by the anterior portion the central convolution and the parts in front of it. That this is the seat of intelligence had not been asserted as a fact, but merely that certain evidence indicated as much. This evidence was now more fully given. It was chiefly that afforded by the study of comparative anatomy and anthropology. The higher animals ascend in the scale of civilization the more the anterior convolutions become developed. The same is true of human races, the higher the race the more is that part developed.

As regards the posterior part of the cerebrum, experimental investigations and pathological observations have led us to believe that the special senses and general sensation may there be localized. But, so far as speaker knew, very few believed this to be the seat of intellect also.

There is no direct testimony of such a fact. It is true there are cases in which disease in this part is followed by impairment of intellect. But coarse lesions in any part of the brain may produce similar effect.

On the other hand there is pathological evidence that the seat of intellect is in the anterior part of the brain, and that is the pathology of this disease.

Both the clinical history and the pathological anatomy point to this. Motor and mental symptoms are nearly always associated. Though other symptoms, sensory, etc., are sometimes present, these are the prevailing and constant ones. They therefore probably have the same source; and the seat of the motor symptoms is the anterior part of the brain.

The pathological anatomy points to the same thing. The changes in the membranes are chiefly in the anterior portion.

The adhesions of the pia mater to the brain are most common over the central convolutions. But the most conclusive facts are those gained by exact observation by the scales. Meynert, whose immense material has given him abundant opportunity for investigation, has for many years been accustomed to weigh very carefully the different parts of the brain. He weighs separately the cerebellum, what he calls the *stammhirn* (which includes the medulla, pons corpora striata and thalami optici, the hemispheres exclusive of the parts just mentioned, as well as the hemispheres divided into two parts, the dividing line being the fissure of Rolando. His systematic weighing has enabled him to draw the following conclusions. There is atrophy of the brain in cases of general paralysis. The atrophy affects some parts more than others. This is proven by the comparative weight of the different parts. In other forms of insanity the weight of the hemispheres is seventy-eight per cent. of weight of entire brain. In general paralysis it is seventy-six per cent. In other forms of insanity the weight of the cerebellum is about 10.9 per cent., of the *stammhirn*, about 10.7 per cent. of weight of entire brain. In general paralysis the weight of cerrebellum is about twelve per cent of *stammhirn* about eleven percent. These figures show that the atrophy is mainly in the hemispheres, little if any in the *stammhirn*, and probably none in the cerebellum.

As regards the weight of the two parts of the hemispheres, in other cases the weight of the anterior part is forty-one per cent. to forty-two per cent. of the entire weight of the hemispheres, in general paralysis it is only forty per cent.

These figures show conclusively that the atrophy is most decided in the anterior portion of the cerebrum.

In answer to a statement that the paralytic manifestations of tongue and facial muscles are to be attributed to changes in the nuclei of the seventh and hypoglossal nerves in the floor of the fourth ventricie, the speaker said that these paralyses were never to be referred to such changes. In these cases there is seldom, if ever, any disease of these nuclei, and besides, the paralyses are of a different character from those produced by such disease. The paralysis due to disease of the nucleus of the nerve is more decided and is attended by nutritive changes in the muscles. On the other hand the paralyses of general paralysis are very slight, they are like those experimentally produced by lesions of the cortex, and it is here that pathological changes are found. Experiment as well as many pathological observations, enable us to say that the motor symptoms above mentioned are to be referred to the cortex of the inferior portion of the central convolutions.

The speaker stated that he had not dwelt upon the pathological anatomy, because in the space of a single article he could not give a full account of the disease, and therefore dwelt only on the part of importance to the practitioner. The paper centered on the diagnosis, and it was hoped that the slight changes occurring in the incipiency of the disease, so fully spoken of, would enable the practitioner to often recognize the disease at an early period and thus avert serious trouble or danger. The speaker believed he had given in his paper, brief as it was, the pathological changes that were of practical importance, the pathological changes so far as they would enable us to understand the symptoms of the disease.

The anatomical changes are very numerous. These are exostosis of bone, inflammatory and other changes in the dura and pia mater, adhesions of pia to the cortex, œdema of the pia, and in the ventricles, dilatation of the blood vessels, atrophy of the ganglion cells of the cortex, the presence of spindle cells in the parenchyma of brain, first discovered by Lubimoff but believed by some to be an artificial product, degeneration of the capillaries, and many other changes. But of all these none directly explain any of the mental symptoms farther than that the atrophy and the processes leading to it, be they inflammatory or degeneaative, are the causes of the defective intelligence.

Nor have all these facts in pathological anatomy solved the question of the nature of the disease. Here there is an abundance of theories, but, as yet, no positive knowledge.

In defense of his statement that the disease occurred principally in intelligent men, the speaker stated that he had usually found it in that class, but that he based the statement principly upon the testimony of others with large experience of this kind. There is also indirect evidence. The disease is most prevalent in the most highly civilized races, and is frequently caused by great mental strain. Meynert calls attention to the frequency of this disease in Vienna after the revolution of 1848. The experience of one speaker that delusions are usually absent, and that the melancholic is a more common type than the cheerful, happy one, differs greatly from the usual experience. That delusions may be absent was stated in the paper, but that this is infrequent is shown by the fact that of about one hundred instances of the disease seen by the speaker in the last few years in the large hospitals and asylums of Europe, he does not remember a single instance in which the delusions were absent. And that the melancholic type is not the most common in ordinary experience is indicated by the fact that whenever a case of this kind was pointed out, it was always dwelt upon as being of interest on account of its comparative infrequency.

The speaker said the peculiar apoplectic and hemiplegic attacks of this disease were usually of short duration. They are very frequently attended by an elevation of temerature. Westphal has attributed this elevation to complications, as pneumonia.

But Hitzig calls attention to the fact that frequently no complication can be found, and that the increase of tempetature is often of very short duration, and believes this is often due to some, as yet, unknown nervous influence. In this connection he refers to experiments of his own and Eulenburg's where lesions of the cortex has been followed by unilateral elevation of temperature, but acknowledges that Vulpian has, in the same experiments, obtained negative results.

As regards the cause of these attacks we are still entirely in the dark. In post-mortem examinations only in the rarest cases have coarse lesions been found.

Charcot has dwelt at some length on this subject in his lectures on *sclerose en placques.* He states that in disease, as well as in degeneration of the pyramidal tracts following lesions of the brain, and in general paralysis the same kind of apoplectic attacks temporary in character and accompanied by an elevation of temperature, may be found. He further states that in such cases sclerosis in the crura, pons, and medulla are frequently found, and though he makes no further comment, evidently implies that we are not to seek here for the cause of the attacks.

He refutes the notion entertained by some that these attacks are of a congestive character.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, October 9th, 1882.

The President, Dr. JAS. TYSON, in the Chair.

Myxomatous Tumor of the Posterior Cervical Region.—Presented by Dr. Nancrede for Dr. W. G. MacConnell.

The tumor was removed by Dr. J. H. Brinton, at the Jefferson College Hospital Clinic some ten days since. The patient was a little boy aged 4 years whose parents had first noticed the growth about two years ago. Latterly, it has grown with considerable rapidity. It was of firm consistency, lobular and movable beneath the skin, showing thus in pressure that it was a fibrous tumor. After removal, in addition to the above-mentioned characteristics, it was surrounded by a capsule, and on section looked somewhat suggestive of myxomia, still it was thought by some to be a fatty tumor, containing more fibrous tissue that usual.

Microscopic examination by Dr. Isaac Connell. Upon examining a frozen section stained with iodine, meshes of capillaries are seen in the walls of which the endothelial cells composing the vessels can be distinctly seen. The aforesaid meshes contain the mucoid structure traversed by large pale fusiform cells, the processes of which anastomose with each other. In addition many leucocytes are seen and interspersing the growth in every direction; sometimes yellow elastic fibres are readily distinguished.

When presenting the specimen Dr. Nancrede commented on the rarity of such growths.

Dr. S. W. Gross said he had himself presented several gelatinous polypps of the nose a number of years ago, which were most characteristic examples of myxomatous tissue. He could also recall a specimen of subcutaneous myxoma of the forearm, as well as the hæmatoid myxoma of the breast referred to by Dr. Nancrede. He was disposed to consider it the rarest of all neoplasms of the breast; indeed he had never personally met with one, and when preparing his work on tumors of the breast, he had written to numerous surgeons throughout the country who all replied that they had never met with one affecting the breast.

Dr. Formad remarked that he had exhibited a myxomatous fibroma of the labium some years since, and said that the peculiar milky appearance assumed by the fluid when such growths were thrown into alcohol was a good diagnostic point.

Dr. Shakespeare said that his personal experience as to the rarity coincided with that of Dr. Gross. This specimen is one of the rarest forms as most of the fibrillæ consist of yellow elastic tissue. The rarity of myxomatous tumors seems to him to have much bearing on the views of Conheim and others as to the etiology of tumors. The observers insist that all tumors spring from the remains of fetal tissues not made use of in tissue construction which remain dormant in their embryonal condition until subjected to some irritation when they developed into the various neoplasms. Now tissue practically identical with that found in myxomata pervades the fœtus. How then is it that portions of this do not remain to give rise to myxomata? On the contrary myxomata are among the rarest of the neoplasms.

Specimens from a man who died with brain, lung, heart, liver, spleen, kidney and bladder lesions. Presented by Dr. J. F. Eskridge.

The specimens showing the above lesions were removed from the body of a man, aged 68 years. The patient had become deaf in the right ear thirty years before while suffering from some brain disturbance. Attacks of jaundice with gradual increasing permanent discoloration of the skin had extended over a period of ten years. Since the early part of the year 1877 he had complained of incontinence of urine, an oppressed feeling over the hepatic region, dropsy in the face and feet, and a gradual loss of flesh and strength. The two years preceding his death he had been unable to work, but was only confined to his bed five days During the latter period his symptoms were in the order in which they were developed, great prostration, scanty secretion of urine, blindness for twenty-four hours preceding repeated convulsions, loss of speech and almost total inability to swallow, although consciousness was preserved until coma ushered in the death scene. His temperature (axillary) did not rise above 100.5.° The surface head temperature nearly equalled that of the axilla. No paralysis of the muscles of the face or extremities preceded death. The liver during life did not appear to be enlarged or altered in its outline.

The post mortem examination revealed in the brain engorgement of the veins with some effusion, slight pia-mater inflammation in the neighborhood of the fissure of Rolando, apparent degenerative changes in the left island of Reil, and anterior portion of the left temporo-sphenoidal lobe; in the pleura and lungs, old and numerous pleuritic adhesions, lobular and vesicular emphysema of the lungs, congestion of both lower lobes, and a nodule (probably cancerous) of the left apex; in the heart fatty degeneration, dilated right ventricle, and incompetent mitral valves from ossific change; in the liver multiple cancer without an increase in size or a nodular condition of the organ; in the spleen, marked increase of fibrous tissue and atrophy of the glands to one half or less its normal size; in the kidneys and the ureters, the last stages of pyo-nephrosis, the glandular tissue being nearly all destroyed, the pelves were as large as a good sized orange, and the ureters dilated so as to admit a man's thumb; in the bladder, great hypertrophy of the mucous membrane and decrease of the capacity of the viscus.

Primary Carcinoma of Pancreas and Liver.—Presented by Dr. E. P. Bruen.

The interesting features pertaining to this case are, the age of the patient, 24 years, and the rapidity of the abnormal processes. These rendered the diagnosis of malignant disease doubtful until the appearance of nodular tumors in the liver. The family history was free from hereditary disease. The commencement of the disease dated from September, 1881—death occurred on January 15th, 1882. At first the symptoms related solely to the digestive tract—such as dull and heavy sensation after eating, with acid eructations and occasional vomiting. Subsequently, sharp, cramp like pains in the abdomen were a prominent symptom. After the lapse of a week there came general itching, and two weeks later the skin became yellow. This yellowness and itching never disappeared during the history of the case. At the autopsy the gall-duct was found obstructed by the enlarged head of the pancreas so that extreme dilitation of the gall-bladder had ensued. This was probably the cause of the jaundice and had not the liver disease itself. The bowels were regular and the appetite good when first seen. The case then presented evidences of partial obstruction of the gall-duct with digestive disorder, but without the symptoms characteristic of malignant disease of the stomach or bowels.

By the middle of December, 1881, the liver dullness extended from the fourth interspace to three inches below the ribs, in the nipple line from the ensiform cartilage the line of dullness extended to within one inch of the umbilicus. The hepatic region was tender on pressure, especially over the epigastrium. The patient complained about this time of dull pain over the liver with griping pain in the abdomen. The pulse was 76 per minute. He had lost four pounds since admmission, and looked thin. About this time a small inequality was noticed on the surface of the liver three inches above and a little to the inner side of the umbilicus. The spleen was enlarged. By January 7th the bosselation of the liver became distinct and the enlarged gall-bladder rendered irregular by gall-stones presented a slowly increasing elastic, tender tumor situated to the right of the epigastrium and umbilicus.

By January 12th the pulse became rapid—130 per minute—the patient rapidly failed, and death occurred January 15th.

Autopsy. — The pancreas was enlarged to double its size, the growth chiefly occupying its head, and compressing the common bile-duct. Microscopic examination showed it to be scirrhus carcinoma. The liver was thickly studded with nodules of medullary carcinoma explaining the anti-mortem bossellated feel of the organ. The gall bladder was distended to twice its normal size, and contained a number of gall-stones.

Remarks. The duodenal end of the organ, as is usual, was the seat of the disease. In a paper on 39 cases of primary carcinoma of the pancreas in St. Bartholomews Hospital Report for 1881, jaundice is stated to be always present, while in 24 cases of secondary carcinoma this symptom was noted in but 7 cases. This is presumably from the secondary growth occurring in some other portion of the organ than its head. Murhison says that the characteristic symptoms of carcinoma of the pancreas are pain in the pancreatic region, sensible tumor and persistent jaundice. To these Dr. Bruen would add, intestinal dyspepsia, which differs in some essential features from the dyspepsia of organic disease of the stomach.

Dr. Musser remarked that he could vouch for there being a distinct tumor of the pancreas as he was present at the autopsy. The case had been under his observation in the dispensary one month prior to admission to the hospital. On account of the age he was puzzled as to an exact diagnosis although confident that the cause of the jaundice was obstruction. He noted among other symptoms the intense itching of the skin—a point of importance, Sims says, in the diagnosis of obstructive jaundice from that due to suppression. In five cases of tumor of the pancreas he had lately seen all were accompanied by jaundice.

Dr. Bruen called attention to the uncertainty of bossilation as a symptom of malignant disease of the liver. He had presented to this Society only two weeks since a liver exemplifying this condition in a marked degree, where nothing beyond cirrhosis in the stage of enlargement existed. The occurrence of carcinoma of the liver at so early an age is unusual, although Dr. Pepper had shown a specimen of the disease to this society some years ago, occurring in an infant. Dr. Tyson said that there were two points in this case of great interest to him: firstly, jaundice in carcinoma of the pancreas. While it is a frequent symptom it is by no means an invariable symptom. Seven years ago he presented to this Society the specimens from a case of primary pancreatic carcinoma, where no jaundice had been present and six months ago he presented no symptoms of jaundice. Secondly as to the diagnosis from cancer in the stomach, he had noted in his experience as was mentioned in the history of Dr. Bruen's cases, the absence of gastric symptoms. This negative symptom is of importance since the tumor is often detected in precisely the same spot in both these diseases. The absence of gastric symptoms with intestinal indigestion, irrespective of fatty diarrhœa he considered the most reliable diagnostic points between carcinoma of pancreas and stomach.

Spindle-celled Sarcoma of the Small Intestines.—Presented by Dr. W. A. Edwards.

On September 23d, 1882, I was asked to assist Dr. W. F. Atlee in the removal of an abdominal tumor. The patient æt. 48 years, whose menstruation had ceased at 31 years, first noticed the swelling in April last; on the day of operation she measured thirty-eight inches around the abdomen. The usual incision was made and the tumor reached, when its surface was seen to be of a dark purple hue, with a large net-work of veins ramifying in every part of its serous covering.

A trocar and canula was introduced but nothing but blood followed the withdrawal of trocar. The sac was then torn open, and its contents, of a soft brain like consistence, was emptied out. The growth was now turned out of the abdominal cavity. There was no distinct pedicle, but an attachment to the intestine of about the size of a half dollar was seen. Dr. Atlee says "when I emptied the sac of its soft contents I examined carefully with extreme care the part fastened to the intestine, and my fingers passed into the intestinal tube. "A silk cord was tied around the attached portion and the remainder of the growth removed. The omentum was attached to the growth for a space of two inches; this was ligated and cut away and the abdominal cavity wound was closed, etc.

Death occurred Sept. 25th at 4 a.m.

This growth sprang primarily from the submucous tissue of the small intestine, and grew with great rapidity as the patient was only aware of its presence last April, and by September she measured as above stated 38 inches, microscopical examination of preparations taken from several portions of the growth clearly show it to be a spindle-celled sarcoma, and a most typical one at that. The small intestine is an unusual site for this neoplasm. As far as I am able to ascertain there is no recorded instance of its occurrence in this situation. Dr. Formad, to whom I have shown the growth concurs with me in this statement. On the day of operation I noted as well as I could the absence of all secondary deposits. The surrounding intestines and peritoneum were apparently normal, not even unduly hyperæmic.

No post-mortem was permitted.

Chronic Parenchymatous Nephritis Complicating Phthisis Pulmonalis.—Presented by Dr. James Tyson.

My object in showing these kidneys is to illustrate the morbid anatomy of the renal complications which so frequently attends the later stages of phthisis pulmonalis. It is very well understood that when œdema of the feet and legs present themselves in cases of consumption, the end is not very far distant; but the renal complications which is at the bottom of such œdema is often overlooked. It is, of course, not impossible that there should be œdema in the last stages of phthisis from simple alteration in the composition of the blood—a watery state of it—but in the majority of instances it means that the kidneys have become involved. As to the form of disease affecting the kidneys it is acknowledged that it may be either lardaceous disease or chronic parenchymatous nephritis, but I think the impression prevails it was at least my own, until recently, that the amyloid kidney is the most frequent complication. I believe, however, that the chronic parenchymatous nephritis is more common, and it becomes a matter of interest, if not of importance to be able to diagnose between these two conditions. It is well-known that the microscopic and clinical character of the urine in these two forms of kidney disease are often identical, so that no assistance is afforded by a study of the urine.

The history of the case of course leads to neither particular form but suggests both. One criterion only can I recall to aid us, and that is the presence of enlarged liver. So commonly associated is the enlarged amyloid liver with amyloid kidney that the absence of it almost necessarily precludes the presence of amyloid kidney. At least I am sure we would see it less frequently if we were to consider all cases of renal disease attending consumption unattended by enlarged liver to be parenchymatous nephritis rather than lardaceous disease. It is true we often have enlarged fatty liver in consumption, but the degree of enlargement never reaches that of the amyloid liver, and hereafter I shall be inclined to consider all cases of renal disease complicating consumption to be parenchymatous nephritis, unless they are associated with enlarged liver, when I shall conclude that they are instances of amyloid disease.

Dr. Bruen considered that the passage of large quantities of urine and a history of specific disease, or of prolonged suppuration preceding the kidney trouble, would warrant a diagnosis of amyloid renal disease.

Dr. Musser would ask whether the heart was hypertrophied, and what was Dr. Tyson's experience regarding hypertrophy of that organ in cases of amyloid disease and of chronic inflammation of the kidneys. If not too late, he would like to call attention to the absence of cardiac hypertrophy with an infinite degree of obstruction in the renal circulation in the case Dr. Eskridge had presented. This is in direct opposition to the views held by some that the hypertrophy of the heart is a sequence of the renal obstruction in chronic interstitial nephritis.

Dr. Tyson replied that in this particular instance he did not see the heart and could not tell whether it was hypertrophied or not. The same law holds good for amyloid kidney as for chronic nephritis; if the case last long enough, hypertrophy is sure to be found sooner or later.

Ecchymoses of the Mucous Membrane of the Stomach.—Presented by J. M. Barton.

The history of the case was that of chronic lung trouble. The stomach, upon being opened, presented an irregularly shaped extravasation of blood about two-thirds of an inch in diameter. The mucus membrane covering the effusion was healthy, as it was in the rest of its extent.

Dr. Tyson remarked that these effusions are not uncommon, but he had never seen them except in their hip-joint form.

Dr. Roberts asked if there had been violent vomiting recently.

Dr. Barton replied that nothing of this sort had been observed for some months prior to death.

OHIO VALLEY MEDICAL SOCIETY.

The Ohio Valley Medical Society met in the city of Gallipolis, Ohio, Tuesday, November 7th, in regular semi-annual session. The President, Dr. C. R. Reed, in the Chair. The Secretary being necessarily detained at home, Dr. E. G. Alcorn was chosen secretary pro tem. The following members were present: Drs. Reed, Tobey, Newton, Hanson, J. E. Sylvester, Wm. Sylvester, J. E. Holcomb, Crummit, Mills and Jacobs.

After the usual preliminary business Dr. E. G. Alcorn presented an interesting and instructive paper on the subject of "Asthenopia."

After which Dr. J. E. Sylvester reported a case of "Locomotor Ataxy," cured by the administration of strychnia, which was well received; during the discussion of which the therapeutical effects of strychnia were considered at length.

At the evening session the general subject of "Quackery" was discussed, and a letter from Prof. J. T. Whittaker, of Cincinnati, relative to the subject was read.

The following resolution was then offered by Dr. J. E. Sylvester, which was laid over for discussion until the following day:

"*Be it Resolved*, by the Ohio Valley Medical Society that we consider reprehensible the practice of certain medical journals of admitting the advertisements of articles put up by manufacturers of patent medicines, and that we demand as a part of the consideration of our support that such advertisements be hereafter omitted.

"*Resolved*, That the Secretary be directed to transmit a copy of these resolutions to the publishers of the LANCET AND CLINIC, *Obstetric Gazette* and the *Columbus Medical Journal*, these being journals of general circulation among the profession in this valley."

The Society then adjourned until the following morning at eight o'clock.

The Society met as per adjournment. Additional members present: Drs. Johnson, Lucky, Knight, Fravel, Guthrie and Bishop. The latter being the Secretary, and having brought the minutes of the previous meeting, the same were read and approved.

On motion of Dr. Tobey the following resolution, offered by Dr. Mills, and adopted at the last meeting was ordered published, viz.:

"*Resolved*, That the Ohio Valley Medical Society has learned with deep regret of the death of Dr. W. C. H. Needham, and that they hereby wish to express their high sense of his virtues, talents and professional merit.

"*Resolved*, That this Association has lost one of its zealous and devoted members, and the community a valuable citizen.

"*Resolved*, That the warmest sympathies of this Association are hereby most respectfully tendered to the family and friends of their deceased associate, and that a copy of these resolutions be published in the city papers and also in the *Ohio Medical Journal* and *Lancet and Clinic*."

The Committee on Admissions then recommended for membership Dr. W. W. O'Neil, of Kentucky School of Medicine, class of 1879. A ballot being taken he was declared elected.

Regular business being called Dr. Fravel presented a report on the "Use of the Ophthalmoscope."

The Section on Surgery presented verbal reports of three cases of "Injury to the Brain," resulting in death to all, in two of which trephining was employed and in one it was not. Considerable discussion was provoked by this report.

At the afternoon session the usual financial business was transacted and Jackson C.H., Jackson Co., O., was selected as the place of next meeting which was fixed for the first Wednesday and Thursday in May, 1883.

Dr. Knight then presented an admirable paper on the subject of "Theory and Practice," which abounded in salient points.

The resolution offered yesterday by Dr. Sylvester was taken up and after some discussion, with the consent of the second, was withdrawn.

On motion of the same gentleman the Secretary was directed to furnish the LANCET AND CLINIC and *Columbus Medical Journal* with a resume of proceedings.

The President then announced as the Chairmen of the several sections for the May meeting as follows:

Surgery, Dr. Eakin; Practice, Dr. Crumit; Obstetrics and Gynecology, Drs. Mills and Johnson; Nervous Diseases, Dr. Tobey; Physiology and Hygiene, Dr. Luckey; Chemistry and Materia Medica, Dr. J. E. Sylvester; Syphilitic Diseases, Dr. Holcomb; Necrology, Dr. Wm. Sylvester; Medical Jurisprudence, Dr. Jacobs; Ophthalmology, Dr. Fravel; Otology, Dr. Alcorn; Public Lecture, Dr. Knight.

Selections.

SURGERY.

DR. KAUFMAN'S EXPERIENCE WITH IODOFORM.

Zurich K. has treated all recent wounds with iodoform for some time, sprinkling a thin layer of pure powder on the surface of the wound, and then rubbing it in with his finger.

According to the nature of the wound, it was either closed by sutures after putting in a drainage tube, or the sutures were omitted and the wound left open. In both methods, Lister's dressing was used after a thin strip of iodoform gauze had been covered over the wound.

The observations made by the author show that this plan of dressing will secure a perfectly aseptic course in patients of all ages, and observations in almost any region of the body, provided that the iodoform can be brought in direct contract with the entire wounded surface. K. refuses to accept the theory that iodoform is a perfect and reliable antiseptic, as Boifat claims. On the contrary, he thinks it is deficient in antiseptic properties. The author concludes that since he has observed erysipelas in a number of instances after the use of this antiseptic, it should only be applied in the milder cases of injury, while in all serious cases, and especially after operation the reliable and exact "Lister" should be retained. After the injection of a solution of iodoform in plyorium in cases where there was a fungous condition of the wound, an exaggerated inflammatory process was invariably observed. In this connection nothing more is to be expected of iodoform than of any of the ordinary so-called remedies generally used; therefore, for the present, we should retain the place of removing the pathological products preferably combined with antisepsis (as near as it is practicable) as being the most reliable. According to K. the theory that iodoform acts specifically in all wounds cannot be entertained at all.—*Deutche Med. Zeitung.* C.W.T.

OBSTETRICS.

Proposed Instructions to German Midwives for the Avoidance of Puerperal Fever.—A Commission has lately been sitting at Magdeburg for the purpose of considering the best method of preventing the origination and spread of puerperal fever. The deliberations have resulted in a series of proposed instructions to midwives, having for their aim the so-called antiseptic conduct of labor cases. This will be shown by the following propositions laid down by the Commission:

1. Medical science has, for a series of years past, arrived at the fixed conviction that the great majority of cases of childbed fever depend for their origin upon the inoculation of recent wounds (produced more or less in every case of labor) by putrid (so-called septic) poisons.

2. These poisons readily cling—but in an imperceptible manner—to every kind of utensil that may come into contact with the woman in labor unless they are kept scrupulously clean.

3. But it is the hands and instruments of the obstetrician that have become known to be especially dangerous bearers and disseminators of the poisons, as it is impossible to avoid bringing these into contact with dangerous putrefying material.

4. Simple, and even repeated, washings with soap and water, as observation has shown, will not remove the poisons that may be clinging to the hands and instruments. The slightest trace of such a poison will, however, suffice to set up the gravest, yea, even fatal, childbed fever.

5. Wherefore it is the most sacred duty to the midwife, as of every physician, *in other ways* so thoroughly to cleanse the hands and instruments, and whatever other appliances may be brought into contact with the patient, that she may not be inoculated by any poisonous matter.

6. We are able, as we learn by observation, to destroy the poison, or, at least, render it powerless, by boiling, and especially by the stronger solutions of carbolic acid (two to five per cent).

7. The simple rinsing of the hands in carbolized solutions that are too weak can afford no protection against childbed fever. We therefore give, in the following, instructions as to the rational employment of the antiseptic material before, during, and after labor.

Then follow, in fourteen paragraphs, the details of the "Instructions for the Antiseptic Conduct of Labor and Childbed." As will be supposed, these instructions are founded entirely on the propositions laid down in paragraphs, 1 to 7.

Paragraphs 22 to 24 deal with instructions to the midwife in case the lying-in woman is ill, No. 22 directing the midwife to call in medical assistance at once if the temperature rises or the lochia become offensive.

Twenty-three would fix upon her the duty of reporting the case to the district medical officer within twenty-four hours of her becoming aware of the nature of it.

Twenty-four directs the necessary washings and disinfections to be carried out by the midwife before venturing to attend another labor or lying-in case, and cautions her to cease her attendance on cases likely to prove infectious as soon as a suitable attendant can be found to supply her place.

Numerous references are made throughout the Instructions to the "Prussian Handbook of Midwifery for Midwives," of which, by-the-by, an English translation has been published in this country by Mr. Burton. (*a*) All this goes to show that the endeavor to educate midwives in Germany is a serious and painstaking one. Difficulties have been, and are being, met with, mostly having their origin in the low degree of mental culture possessed by the classes who follow the occupation of midwives. A recent suggestion by a district medical officer is to the effect that every midwife shall be compelled to take out at least eight days' practice in a lying-in hospital once in five years.

What a contrast all this offers to the condition of affairs in our own enlightened and free country! where any woman, idiotic or otherwise, who chooses to do so, may call herself a midwife, and charge herself with the life of any poor woman who may be ignorant or foolish enough to employ her. Paternal, or, as their abusers maliciously term them, "grandmotherly," Governments may impose restraints upon freedom of action that may be felt in many cases to be irksome, but it can scarcely be questioned that the balance of safety to human life lies on the side of that Government that does exercise restraint in all those callings in which life is affected.—*Med. Press and Circular.*

Ovariotomy in an Infant.—Dr. Hingston, of Montreal, recently removed an ovarian tumor from a child two years of age. The patient was doing well at last account.

THE CINCINNATI
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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, November 25th, 1882.

The Week.

DIPHTHERIA is prevalent in Philadelphia.

SMALL-POX and scarlet fever continue to prevail in Cincinnati, and bid fair to assume epidemic proportions.

CINCINNATI MEDICAL SOCIETY.—Next Tuesday evening, Dr. Schwagmeyer will report a case of extra-uterine pregnancy.

DIPHTHERIA IN BOSTON.—Owing to the prevalence of this and other diseases, public funerals have been forbidden by the Board of Health.

THE Cincinnati Board of Health affects to stamp out small-pox by dropping the name from the weekly bulletin. This will be known by the future historian as the Napoleonic process.

ONE of Napoleon's Commissaries was hung for speculating in army supplies. The treatment was heroic, but it proved effectual and possessed prophylactic virtues. Just what course the aforesaid Napoleon would have pursued had he detected his medical purveyor in speculating in vaccine virus, germicides, doctors, et al., is unrecorded. Our readers will not infer that the medical purveyors of the French army ever indulge in such doings. Lest they might, we utter a word of warning.

EPIDEMIC OF TYPHOID FEVER IN PARIS.—One hundred and thirty-four deaths from typhoid fever were reported in Paris for the week ending Oct. 5th, 1882. The total number of cases is said to be over 2,000. At Lariboisiere alone there were 437 cases. In two days 283 cases were received into the different hospitals. These hospitals have had to discharge or transfer a number of chronic and convalescent cases in order to accommodate the new patients.

PHILADELPHIA COUNTY MEDICAL SOCIETY LECTURES.—The medical profession is respectfully invited to attend the lectures of Prof. Austin Flint, Sr., of New York, on "The Physical Exploration of the Lungs by Means of Auscultation and Percussion," to be given in the hall of the Society, N. E. Cor. Thirteenth and Locust Streets, on Saturday, Nov. 25th, Dec. 16th, and Jan. 13th, at 8 p.m.

Lecture I.—The True Mode of Study and Its Requirements as Regards Auscultation and Percussion. The Signs Obtained by Percussion.

Lecture II.—Auscultation; and the Respiratory Murmur, with its Abnormal Modifications.

Lecture III.—The Rales and the Vocal Signs.

Committee on Lectures:—John B. Roberts, Chairman, Chas. H. Thomas, Wm. S. Little, M. S. French, and Edward T. Bruen.

Miscellany.

THE VOLATILE PRODUCTS OF PUTREFACTION.—In a paper recently laid before the French Academy, the author states that as the result of his latest experiments on the antiseptic properties of the glyceroborates of sodium and calcium he comes to the following conclusions:

1. The disinfecting power of any antiseptic is in inverse ratio to the age of the putrefying mate-

rial. A solution of chopped meat six days old will require a much smaller proportion of disinfectant than when it has been kept, say for a couple of months, when the amount required will be ten times greater.

2. If we wish to measure the power of antiseptics by taking as a basis their disinfecting properties, when applied to a solution of chopped meat of normal strength (1 : 10), we shall find that the most powerful compounds are potassic permanganate, calcic hypochlorite, ferrous sulphate and sodic glyceroborate. For instance, in order to disinfect 10 cubic centimeters of the normal chopped meat solution mentioned above we must take 500 cubic centimeters of a saturated solution of salicylic acid, 80 of a saturated solution of carbolic acid, 80 of a ten per cent solution of sodic glyceroborate and several drops only of a one per cent solution of potassic permanganate.

3. There is no parallelism in the disinfecting action of an antiseptic and its action on microbes; potassic permanganate, for instance, although a most powerful disinfectant, exercises no power whatever on these organisms. On the other hand, alcohol, which, after a long time, checks their development, only acts as a very weak disinfectant.

4. There is no parallelism between the power of an antiseptic in preventing putrefaction and its power of checking it when once set up. Alcohol and carbolic acid, which are powerful preventatives of putrefaction, act but feebly when putrefaction has once commenced. Carbolic acid, therefore, when used in surgery, acts rather as a preservative than as an antiseptic.

5. With the exception of a very small number of bodies, such as corrosive sublimate and other powerful poisons, the greater part of the antiseptics now in use, more especially carbolic acid, have but a very feeble action on bacteria. If we mix twenty cubic centimeters of the above mentioned normal solution of chopped meat with 50 or even 100 cubic centimeters of a saturated solution of carbolic acid, the larger bacteria are rendered motionless, while the smaller ones retain their vitality and powers of reproduction. The author possesses carbolized solutions four months old still rich in bacteria. In fact, so far from looking on carbolic acid as a destroyer of bacteria, the author looks on it as the best material for preserving their lives!

6. The experiments hitherto made upon the cadaveric alkaloids have not solved the question as to whether the odorous volatile alkaloids evolved during putrefaction are poisonous or not, seeing that the products of putrefaction introduced into the body in these experiments contain bacteria to which the resulting poisonous effects may or may not be attributed. After trying many experiments, the author simply introduced a number of frogs into a vessel, the bottom of which was covered with a layer of the normal meat solution already mentioned. When putrefaction first set in, although large quantities of sulphuretted hydrogen and other fetid products were evolved and the liquid swarmed with bacteria, the frogs did not seem to suffer in the slightest degree, although, had an infinitesimal portion of the liquid been injected into an elephant, the animal would infallibly be poisoned. The same liquid kept for two months and then being harmless when injected subcutaneously, killed the frogs in a few minutes when they were compelled to breathe its vapor. There is, therefore, no parallelism between the toxic properties of a putrefying liquid and of its emanations. On the contrary, they seem to be in inverse ratio; that is to say, the newer the liquid the more toxic it is, the older the liquid the more toxic are its exhalations.

7. The small quantity of these volatile toxic alkaloids, which is sufficient to kill animal life when breathed, shows them to rival nicotine, prussic acid and other powerful poisons in their virulence.

8. The author's experiments show why accidents have arisen when bodies have been exhumed after having been buried for a long time. The air of old cemeteries, although nearly free from microbes, is, nevertheless, extremely poisonous. The volatile products of putrefaction generated by microbes appears therefore, to play an important part in contagious and infectious disease.—*Chemist's Journal*, from *Comptes Rendus*.

Relative Value of Ether when Prepared with "Rectified" or Methylated Spirits of Wine.—The subject of the safest drug with which to produce anæsthesia has been sufficiently discussed, and the verdict of those best able to judge has been given, out and out, in favor of ether, as against chloroform, when "properly administered by a skilled etherist." There are, however, two samples of ether in the English market to the relative value of which, I believe, the profession is not fully alive. The two forms of "spirits of wine" used in the manufacture of ether create in reality two kinds of ether, and the difference between them are important. Firstly, the ether prepared from rectified spirit is found less desirable as an anæsthetic by those who have used it, and it is not considered as safe, producing more sickness and laryngeal spasm in certain cases in which there is a tendency to such complications. Secondly, it is about twice the cost. For instance, the methylated ether costs 2½d. per ounce, and the rectified ether costs 4½d. per ounce. I have not used the rectified ether in my own work, so cannot speak of individual experience of its actions. But of the use and applicability of the methylated ether—as the safest anæsthetic known, when carefully administered by means of Clover's inhaler—I can speak strongly as the result of my daily observation.

It is a very ordinary circumstance to occupy eighty seconds in producing complete anæsthesia, without a struggle or a cough, and it is by no means extraordinary for a patient to be "fully under" *within* the minute.

In the case of short operations upon the eyes and the like it is hardly ever necessary to reapply the inhaler after it has once been removed for the operator to commence, the patient remaining sufficiently anæsthetic for an operation such as I have mentioned to be completed without hurry.

Anæsthesia can be prolonged with equal safety, even so far as to keep a patient in labor completely under its influence for upwards of *four* *hours*, the longest time which has happened in my experience.

Mythylated ether is, I consider, from this point of view, the safest and cheapest anæsthetic at present in use.—Bendelack Hewetson, M.D., in *Chemists' Journal*.

A NEW USE FOR SALICYLATE OF SODA.—Dr. Theo. M. Kendall writes to the *Lancet* that he derived most gratifying results in a case of severe chalk gout, from the use of a lotion of ten grains of salicylate of soda to the ounce. By its use, chalky deposits in the ear were softened, and in four days disappeared, leaving only a small scar.

Bibliography.

FARQUHARSON'S THERAPEUTICS AND MATERIA MEDICA—WOODBURY.[1]

That a third edition of this work should be demanded within five years after the appearance of the first, is conclusive proof that the book is a popular one. That its popularity is deserved no one can doubt who carefully reads the book. The double column arrangement beautifully shows the relations between the physiological and therapeutical action of the drugs. As a text-book for students we know of nothing so concise and clear. As a hasty reference book for practitioners it has no superior.

CLINICAL LECTURES ON DISEASES OF THE URINARY ORGANS.[2]

It is hardly necessary to say anything in addition to the announcement of a new edition of the lectures of this master of the surgery of the urinary organs, a little work that the profession has been familiar with for several years past. And yet, any mention of it seems to require some reference to the improvements it possesses over previous editions. The one under notice contains twenty-four lectures, which indicates an increase in its scope over that of preceding editions of the work. It, of course, includes a description of the method of rapid lithotrity (or litholapaxy, as Bigelow terms it), and which is highly extolled. Brief though it may seem, this little book, nevertheless, contains the essence of the specialty it relates to; and being the teachings of the greatest of all living authorities, it may well commend itself to the fullest confidence and respect of the profession.

QUESTIONS ON HUMAN ANATOMY—POTTER.[1]

This little compilation of 130 pages of text, forms one of a series of "Quiz Compends" for medical students, in course of preparation by the same publishers. Practically, it is a much-condensed abridgement of "Gray," put in interrogatory form, the cuts being mainly or entirely borrowed, without credit, from "Wilson." A noteworthy fault is the omission of any account of the lungs and abdominal organs, the heart and brain being the only viscera treated of. Aside from this, as a convenient means of reviewing knowledge acquired in the dissecting and lecture rooms, the book will doubtless be found useful. L.

PUBLICATIONS RECEIVED:

The Physician's Memorandum Book.—Arranged by Joel A. Miner, Ann Arbor, Mich. Fifth Improved Edition, with Clinical Columns and Ledger Sheets. This is an excellent little pocket memorandum book containing in the front the ordinary doses of most medicines, hints in emergencies, blank pages for a daily record of cases and their progress, ledger sheets, cash account pages, obstetrical record, and a few blank pages for special memoranda.

THE *North American Review* for December commands attention no less by the eminence of its contributors than by the value and timeliness of its table of contents. First, there is a symposium on "The Health of American Women," regarded from three distinct points of view: Dr. Dio Lewis considers the question as it is affected by the prevailing style of feminine attire, especially by the practice of tight lacing; Mrs. Elizabeth Cady Stanton points out the many injurious influences of social environment; and Dr. James Read Chadwick sets forth the effects of education, climate and food, and finally discusses the question whether the modification produced in the European human type by transfer to America lessens the fertility of women. Gov. Buren R. Sherman, of Iowa, writes of the "Constitutional Prohibition" of the liquor traffic in that State, and maintains that the measure is in entire accord with the traditions of the original settlers, and approved by men of all political parties and all nationalities. General Grant, in an article entitled "An Undeserved Stigma," states the facts of Gen. Fitz John Porter's case, and argues that the sentence of the court martial that cashiered him was based on a misconception of the essential circumstances. Richard A. Proctor writes of "The Influence of Food on Civilization," discussing with much learning and force some of the most interesting sociological problems of the present day and of the near future.

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[1] A Guide to Therapeutics and Materia Medica, by Robert Farquharson, M.D., Edin., F.R.C.P., Lond., Late Lecturer on Materia Medica at St. Mary's Hospital Medical School, etc. Third American Edition, Revised by the Author. Enlarged and Adapted to the U. S. Pharmacopœia by Frank Woodbury, M.D., Physician to German Hospital, Philadelphia: Philadelphia: Henry C. Lea's Son & Co, 1882. Cincinnati: Robert Clarke & Co. Price, $2.25.

[2] By Sir Henry Thompson, M.D. Sixth Edition. Philadelphia: P. Blakiston, Son & Co. Cincinnati; Robert Clarke & Co. Price 75 cents.

[1] Questions on Human Anatomy, by Samuel O. L. Potter, M.A., M.D., Author of "An Index of Comparative Therapeutics;" "Prize Essay on Dyslalia;" etc., with Sixty-three Illustrations. Philadelphia: P. Blakiston, Son & Co., 1882. Cincinnati. Robert Clarke & Co. Price, $1,00.

Original Communications.

FIVE CASES OF OBSTETRICS.

By J. C. McMechan, M.D., Cincinnati, Ohio.

For a person engaged in general practice, I have lately had an unusual number of difficult obstetrical cases, and they were of such a nature I deemed them worthy of report.

Case I.—On October 29th, a midwife was called to see Mrs. N., about 4.30 p.m. She had been in labor all day, and was the mother of six children, all of whom were living. On examination, the midwife at once said a physician must be sent for. Upon my arrival I examined and found a foot presenting and the cord prolapsed. Nearly the whole of the cord was lying in the vagina. I attempted to return the cord, but upon pushing it up above the brim of the pelvis it immediately came down again. The pulsation in the cord was good, but as the patient was quite weak from the tedious labor, and as the cord was in danger of compression when the hips would descend, it was deemed best to act at once—attempt delivery. On attempting the extraction, it was found so difficult that ether was administered. Traction was then made on the leg and external pressure over the uterus. The extraction of the lower extremities, hips and shoulders was affected in a few minutes but great difficulty was found in the extraction of the head: the head was, however, delivered in three or four minutes by putting two fingers in the mouth of the fœtus, and making strong traction upon the lower jaw. So much force was used in the delivery, and so much time consumed that it was expected the child would be born dead. This was not the case, as the fœtus breathed a moment after delivery.

As the patient was inclined to hemorrhage, I gave her my attention and left the child to the midwife for resuscitation. By making compression externally over the uterus, and by introducing ice into that organ, the hemorrhage was soon controlled. While engaged in stopping the flow of blood, a fine opportunity was presented for observing the midwife's mode of reviving the child. She first dipped it in a bowl of cold water, and then seizing it by both feet held it up with the head hanging downwards. She then dipped it in warm water, and again held it up by the feet. By this line of treatment the child soon began to breathe well and cry loudly. The woman and child did well after delivery. Although not having any bearing on the obstetrical part of the case, it might be stated that the woman lost a foot by amputation two years ago.

Case II.—On November 3rd, at 11 p.m., was asked to see Mrs. P. in labor for the fourth time, and a midwife in attendance. The membranes had broken at 6 a.m., but the patient had suffered but slight pains all day. An examination was made, and the presentation was diagnosed as a foot presentation. The patient was then left in the hands of the midwife until 9 a.m., of the 4th. At that hour the patient was again visited, and it was quite a surprise to find she was not yet delivered. A more careful examination was made, and by pulling down the presenting part it was found to be a hand instead of a foot. The right hand presented, the head lay in the left ilium, and the dorsum of the child looked forward. Ether was sent for, and after the patient had inhaled over half a pound, although she was not fully under the influence of the drug, yet she was sufficiently so, to proceed with turning, considerable difficulty was experienced in seizing a foot, owing to the violent contractions of the uterus, but a foot was finally secured, and by pulling upon the foot, whilst pushing up the head externally, turning was soon accomplished. After turning great difficulty was experienced in extracting the child, owing partly to the fact of the uterus not being fully dilated. The most difficult part to deliver was the head, but by putting several fingers in the child's mouth, and pulling upon the lower jaw, this was accomplished. The child was born dead; the mother did well after delivery.

Case III.—November 6th was called to see Mrs. R., in labor for the sixth time. All of her children were lost in delivery, except the first one, a girl of nine years. The first visit was made at 9 p.m., and as the membranes were almost protruding from the vagina, they were ruptured. An unusual amount of liquor amnii flowed away, and the case was diagnosed as a head presentation. The presenting part was so high up it was not considered best to try to make out the exact position of the head at that time. I took my departure, telling the midwife to send for me in case anything unusual took place. Everything looked so favorable at the first visit, I hardly expected to be called upon during the night. At 11 o'clock I was sent for again. An examination was made: the head was still at the brim of the pelvis and not engaged. The first presentation was made out, but the cord had prolapsed. The cord was pushed up above the brim several times, but would not remain there. What was to be done? Wait and push up the funis as the head descended, or deliver with the forceps? The first alternative was considered too dangerous for the child; the second, although, perhaps, difficult of execution, was considered best. The diameter of the dilatation of the os was not more than three inches, and the cord lay directly over the child's head. The forceps were applied, but it was found, after applying them, they were applied over the cord instead of beneath it. They were at once withdrawn and reapplied, but this time beneath the cord. Traction was made, and as the head descended the cord was pushed up. It required fifteen minutes to effect delivery after the instruments were applied, but the child was born alive and still lives. The mother experienced no ill after-effects from the rapid delivery.

Case IV.—November 12th, 7 p.m., saw Mrs. L. for the first time. She was a primipara and had been in labor [illegible] hours. From 9 a.m., to 3 p.m., she had suffered the most intense agony. The uterus was well dilated and the head presented. The exact position of the head could not be determined, as the patient suffered such terrible pain every time she was touched. The forceps were twice introduced, but at once withdrawn, as they caused too much pain. Ether was then administered and the forceps applied, and locked. Traction was made, but without any effect. The head failed to descend upon the strongest kind of traction being made. The forceps were removed, and upon careful examination the occiput was found to occupy a posterior position. The posterior fontanel looked toward the right sacro-iliac synchondrosis. An attempt was then made with the hand to rotate the occiput forward, and after rotating forward with the hand, the forceps were reapplied, and an attempt made to finish the rotation with them. This was, however, unsuccessful. The patient had suffered a number of hours, was nearly exhausted, and she was fully under the influence of ether. Was it best to let the patient come to from the effects of the ether and trust to nature's power to rotate the head forward, or was it more advisable to deliver at once by turning. I chose the latter alternative and turned the child at once. The child was turned without any difficulty, and was born alive. I might here state that in turning in the cases related, I found I could effect it much easier by the combined external and internal manipulation than by the internal alone. For three days after delivery the patient had from 2½° to 5° of fever, but after taking morphia and quinine for a few days the fever ceased. It was found necessary to draw off the urine for three days after delivery in this case, and injections of a solution of carbolic acid were also made. The patient is convalescent.

CASE V.—November 14th, at 11.30 p.m., I was requested by a midwife to see one of her patients. The woman, Mrs. H., had been in labor for forty-eight hours, and had been delivered about two years ago by Dr. Schmidt, of this city. At that time the delivery was very difficult, and traction with the forceps was made for at least an hour before the child was extracted. It was still-born. In the delivery under consideration the membranes had ruptured. On November 12th, the uterus was well dilated, but the head, although occupying the first position, was still at the brim of the pelvis. As the case was considered a difficult one, ether was administered. The forceps were applied without any trouble; but upon strong tractions being made, the head failed to come down. After manipulating with the forceps for five minutes, and seeing that nothing could be accomplished with them, turning was next resorted to. The child was easily turned, but the extraction afterwards was very difficult. So much force was exerted in the delivery, and so much time consumed in the delivery of the head that, although the child was living just before turning was begun, it was born dead. The cause of the difficult delivery in this case was a contraction at the brim of the pelvis of the antero-posterior diameter. The advice was given the woman's husband, when she became pregnant again to have labor brought on at the end of the seventh month. This would probably be the only way in which she could be delivered of a living child.

These cases were all, to me, of such an interesting nature that, while they were still fresh in my memory, I thought it best to report them.

CASE OF PARTIAL PARALYSIS (PERIPHERAL?) OF THIGH AND LEG, ACCOMPANIED WITH GREAT ATROPHY OF THE MUSCLES FROM EXPOSURE TO COLD.

By FRANCIS WARDROPER, M.R.C.S.L.,
Lexington, Ky.

Ella W.—— was attacked with malarial fever on the 25th day of August, 1881, and recovered completely in four days. She in common with her brothers in the house and other cases in the neighborhood suffered with pain in the back and considerable pain in the legs, which attracted little notice. She had limped on the day previous to the attack, and experienced some pain in the leg in walking up a pike a few days before; had been exposed to night air, whilst sleeping, before that walk, and once immediately after, viz: on that same night, having slept between two windows. On the fourth day, when entirely free from fever, as shown by the thermometer, she suffered greatly from pain in the left haunch, over the whole region of the glutei muscles. About the eleventh day the pain extended to the muscles on the posterior and external parts of the thigh, but little in the centre, and never on the inside. On the 22d of September, the pain extended to the leg, particularly to the gastri and solei muscles; there was pain on pressure of the muscles; no pain, tenderness, or anything unusual about the skin, and after pain left the muscles, soreness was experienced. As pain and soreness left, motive power returned. On the 19th of September she was removed to Danville, and it was after that removal that pain in the leg commenced; and on the 5th of October, there was considerable pain and tenderness of the foot; ankle pained with swelling, which subsided in a few days; this was the only external local manifestation which appeared, excepting atrophy. It was on the 5th day, being convalescent, that it was discovered that the only motive power in the left thigh and leg was adduction of the hip joint and flexion of the toes. At the termination of the third week, considerable atrophy of the muscles of the haunch and thigh were noticed, by which time the pain in their muscles had gradually subsided; and in addition to the pain in gastric and solei muscles there was great pain on pressure of the posterior tibial nerve in the centre of the calf of the leg. To allay pain for the first three weeks, the internal use of morphine was necessary, combined with the external use of chloroform vapor baths, sinapisms, etc., and relief could always be obtained, so that the health was unaffected, the appetite good, and she was cheerful. In the fourth week dry heat was only required to allay pain; a sedative was given at night, but not always necessary. In the fifth, sixth and seventh weeks considerable use was gained of the ham string muscles; also in flexion and extension of the toes. In the eighth week she was able to stand alone, having previously been unable to do so from inability to hold the knee joint in position or, as she expressed it, it would go forward. The muscles of the thigh commenced to fill out now, and the powers of progression have been gradual from the tenth week to the present time, viz.: the twelfth month. The motive power of the muscles increased from the third week to the tenth. The health has been good, the whole time, with the exception of a slight relapse of the malarial fever on the fourteenth day, and an attack of dysentery from impure water on the fifth week. Catamenia regular.

No pain ever returned in the muscles excepting cramp at night or uneasiness after a long walk. From the tenth of November, 1881, to the first of May, 1882, galvanism and the hot douches were used, friction with liniment, etc. The hot douche appeared to be of the greatest benefit. The improvement has been as great for the last four months without any treatment; the hot douche is used occasionally. Galvanism was used about eighty times, at least about forty times by Dr. M'Cowen, of Danville, who very kindly attended to my patient for many months during to my absence in Tennessee, as I only visited Danville occasionally. At the onset the muscles did not respond very freely to the galvanic current, but after a few applications they contracted freely, which continually increased.

There was never at any time pain on pressure or percussion over the spinal column. Twelve months after the attack, her condition is thus: Health good, ability to walk from a quarter to half a mile, more than that tires her in the unsound limb; which is three inches less in circumference than the other, which is increased very greatly in size, so that the actual atrophy is one half of three inches, perhaps. A weakened action of the muscles of the leg generally, especially in going up stairs. She can raise the leg up a high stair but can not straighten the thigh upon the leg and bear the weight of the body upon it, consequently she puts the sound limb up every stair first, then raises the other. In the last four months without any treatment, she can raise the leg and use the limb with double power. The muscles also, have filled out and are much firmer, and the greatest atrophy appears to be above the knee from four to eight inches. There is want of reflex action or inability of the muscles to extend the leg on striking the ligamentum patella. Galvanism applied to the anterior crural, ischiatic, posterior tibial and perineal nerves causing contraction of muscles, according to their anatomical relations. There was no increase of irritability of the muscles to galvanism, but a decrease of contractility, when Dr. McCowen first applied the battery. There was at no time spasm or cramp of the muscles, excepting after a long walk.

Synoposis of the Symptoms.—Cause. Exposure to night air. The gradual extension of pain from haunch to thigh and thigh to leg, about one week apart, and in twelve days swelling and tenderness of the foot.

Pain in the muscles and afterwards soreness, so that they could not be kneaded.

No rise of temperature with great pain for weeks.

The posterior and external parts of the haunch and thigh were most exposed, and suffered most. Adduction of thigh and flexion of toes always existed.

No cramp or spasm of muscles. No positive symptoms of the spinal cord ever having been affected. Contractility of muscles to galvanism applied to nerves and showing reflex action to be intact.

Roberts states in his practice of medicine, page 777, that peripheral paralysis may be due to many causes, particularly cold, after inflammatory thickening of a nerve, and at 763. that there may be some condition of the muscles themselves, or perhaps, in the minute branches of nerves distributed to them which prevents them from acting under electricity, as is especially the case in paralysis from lead and in certain local forms resulting from exposure to cold, and at page 855, peripheral disease is generally easily recognized by the localization of the symptoms and the existence of some obvious cause to which they are traceable; also at page 703, "that in paralysis of muscles resulting from lead and cold, their irritability is diminished or extinct"

FŒTAL MONSTROSITY.

By T. W. Rankin, M.D., Kirkersville, Ohio.

The extreme rarity of such excessive deformity, is the only apology I shall offer for the report of a case whose history is as follows:

Mrs. V., a lady of medium build, and good constitution, was taken in labor on the morning of July 10th, 1881, and delivered of a dead monstrosity twelve hours afterward. The pregnancy was the fifth, the fourth occurring seven years before. The birth was at full term. There is no special history connected with gestation. Our first suspicion of deformity was aroused when the attempt was made to clear the mouth of mucous. Rapidly separating the cord, I was struck by the horrible appearance of the child's face. There was a double hair lip. The fissures extended far into the nostrils, and were connected with cleft palate. The nose was flattened and expanded, and between the fissures was a central lobule which was found to consist of intermaxillary bones in a rudimentary condition. To this a triangular labial nodule was attached, and being pushed forward and tilted upon its base it seemed to protrude from the nostril and presented the appearance of a minature proboscis. The right ear was perfectly developed, but the left was rudimentary—a mere excrescence without shape or outline. The left eye was normal in appearance, but the socket filled with cheese. Its shoulders and chest were broad and splendidly developed. A deformity rarely seen resembling club-foot, was met with in the left hand. The contraction was preternatural flexions, considerable deformity of the lower end of the radius with congenital dislocation of the wrist. The thumb was flexed and lay upon the wrist. The ventral wall was deficient with no covering except the peritoneum, the whole protruding to the size of an orange. The sex of the child was not apparent. An imperfect organ resembling a penis, but unaccompanied by scrotum was found. There was no anus. Passing now to the posterior aspect of the body we found a bifid condition of the spine to the depending portions of which were attached the legs anchelosed at hip joint; and the legs flexed upon thighs and bound by web as far as the juncture of the upper with middle third. There were no patellæ, but bony union between femur and tibia. There was talipes varus of both feet, and two redundant toes on dorsal aspect of each foot.

Clinical Lectures.

GOOD SAMARITAN HOSPITAL.

SERVICE OF PROF. JAS. T. WHITTAKER.

[Reported by Dr. W. H. Wenning.]

LEAD PARALYSIS.

Gentlemen: This patient cannot lift up his hands well, and if he succeeds in throwing them up to a certain height, to the posture of supplication, they immediately fall down again. Yet he manipulates his arms, as you see, pretty freely. You notice that he takes off his coat and is able to unbutton and button his vest with but little difficulty. He can grasp your hand until it pains. We have here a paralysis of the extensors and a consequent wasting of these muscles, as you observe when comparing the dorsal with the flexor portion of the arm. Instead of the fleshy fullness is a groove along the ulna and interosseous space.

This man says he is a cooper by trade. He works in a liquor store and it is part of his occupation to paint the barrels on the inside. The worst of it is that he gets inside the barrel to work. On examining his gums you discover the blue lines along the edge adjoining the teeth. This line—Barton's blue line, because first described by him—is not present in every case; in fact, it is absent in about one-half of the cases. If this patient had no teeth he could not show it at all, because it is the collection of tartar which causes this deposit, the tartar containing the sulphides from the food. You all know by this time that this is a case of lead poisoning, and that the deposit is one of sulphuret of lead, an insoluble combination of the lead with sulphuretted hydrogen. Sometimes the blue line is very extensive, covering the buccal mucosa everywhere with its slaty hue. Although a very striking symptom, its absence is not indicative, of course, of the absence of lead poisoning. Other symptoms of this affection taken in order and according to their gravity, all complained of as you have heard by this patient before us, are colic, arthralgia, paralysis and brain affections. They occur in about the following proportions: colic in 1,200, arthralgia in 700, paralysis in 100 and brain affections in 70 of 2000 odd cases of lead poisoning.

The first symptom, of which our patient also first complained, is severe pain in the bowels—colic. As the word implies, colic is supposed to have its origin in the colon, but in lead poisoning the pain is situated, not in the intestine at all, but in the abdominal parietes, neither the mucous nor muscular coat of the intestine being necessarily affected. These pains come on in paroxysms with intervals of rest or, in other words, with remissions and exacerbations. There is no fever as in peritonitis, and there is no history of previous disease to account for a peritonitis. As a rule these patients also have cramps in the extremities, more frequently however in the lower than the upper. Sometimes there is a feeling of paræsthesia, rarer anæsthesia. The patient has a sensation of *woolliness* in the tips of his fingers and when you find this symptom you may suspect one of two diseases, chronic lead poisoning or locomotor ataxia. Sometimes it is a feeling of pins and needles, or formication, in the extremities. Arthralgia or pain in the joints is the next most frequent symptom. It is most generally present in the lower extremities; in the case before us, however, it is in the arms, which is unusual. As they simulate rheumatism, not unfrequently these patients are treated as cases of muscular rheumatism. It is the flexor and not the extensor muscles which suffer in this disease. Paralysis is the next most frequent symptom and is the only one now present in our case. In this patient the paralysis set in almost at the same time with the arthralgia. Wrist drop is the first expression of the paralysis in lead poisoning, but almost any muscle, especially any extensor muscle, may be thus affected. When wrist-drop is present it is usually pronounced in both hands. This paralysis is not due to the presence of lead in the muscles as you might imagine, for the lead actually in the muscle is a minimum in amount. Other organs of the body, the bones, the liver, spleen and kidneys, containing a much larger quantity. It is almost least abundant in the nervous tissue, but here it causes trophic changes in the nerve cells. Epileptiform convulsions and coma frequently come on suddenly, as other encephalopathies of lead poisoning, and any one may set in independently of the other and any one may appear first. Tanquerel de Planche, who has given attention to this subject as perhaps no one else, showed that paralysis may come on in four days and as late as fifty-two years after the exposure to lead, no subsequent exposure having in the meanwhile recurred. And this fact carries a most important lesson. For such accidents may happen in syphilis when nervous symptoms of serious grade may set in after a long interval of exemption from other signs. Tuberculosis is another example of a disease which has its poison looked up in the body for months or even years. In other words, all these affections may have latent stages.

This patient had no convulsions but simply giddiness and headaches. Nor had he amaurosis, which is sometimes present in this disease. In these cases the patient becomes blind without any apparent reason or obvious cause, because the lesion is far back of the retina, in the central ganglia. The lead does not act then by its presence in the muscles, but by its effects upon the nervous system. As a rule only traces of lead pass out of the body through the kidneys, in the milk (in which case it may also affect the child), and other secretions, as the bile, yet there may be no trace of it found in the internal organs in chronic lead poisoning showing symptoms so profound as paralysis and convulsions. It thus acts like alcohol which may be taken for a long time and yet you may not be able to distill it from the organs in the body, although it produces grave structural changes in time.

The causes or sources of lead poisoning are often obscure and can frequently be arrived at only by closest scrutiny. Besides the occupations in which lead is handled it may act through cosmetics, eating or drinking substances contaminated with lead. Frequently it is caused by drinking impure water or water running through leaden pipes. In our city, however, it is the impurity of the water which protects us from this poison, for, paradoxical as it sounds, the impurer water is the safer, it is, so far as concerns poisoning by lead. The sulphates or carbonates are deposited along the pipes and thus form either insoluble compounds as in the first case or layers so thick of soluble compounds as to keep the water from coming in contact with the bare surface. Lead poisoning is much more common than is generally believed, but is very commonly, in light cases, overlooked. In Paris two thousand cases of lead poisoning enter the hospitals every year, and, of course, a large number of cases besides never come under the range of statistics. Perhaps the drinking water is the most fruitful source of the disease. And it is interesting to know that really the purest water, that is water containing no, or the least, salts is most liable to cause the disease, because the oxygen of it directly attacks the metal to produce the oxides.

Sometimes poisoning results from treatment, but the cases of poisoning by sugar of lead are extremely rare. It requires a very large quantity, at least one ounce of sugar of lead, to kill anybody. Fifteen and twenty grain doses have formerly been frequently given daily without causing symptoms of lead poisoning. If taken, however, for a long time as small a quantity as one grain to a gallon of water is liable to produce toxic symptoms. For this was all that was in the Claremont water that poisoned the family of Louis Philippe. This water was so pure that it contained only five grains of salts to the gallon.

As regards treatment, the first thing to be done when a large quantity of lead has been recently ingested is to empty the stomach with an emetic, as ipecac or tartar emetic, for the sulphates of zinc and copper, usually recommended, are too unreliable. The stomach pump is a valuable adjuvant; and apomorphia, hypodermically, if the patient cannot swallow. After this we must endeavor to neutralize the lead. As the sulphides are comparatively inert, or insoluble, we use for this purpose sulphuric acid lemonade which makes sulphides of the remaining lead. In chronic cases, however, we must try to dissolve out the lead and carry it off. For this purpose the best agent is iodide of potassium which eliminates it by the kidneys. Formerly alum was given but it rather aggravates the condition in chronic lead poisoning by adding to the constipation of the bowels.

The paralysis is best met with faradization, or, better still with alternate faradization and galvanization if it can be done. It requires, however, immense patience, both on the part of the physician and patient, and must be continued for months before any great result can be obtained. As an illustration of the value of this treatment, however, I will simply mention that in this case of paralysis of the extensor muscles Dr. French applied the electric current for five months every day. This man before you has gained so much in six months as to be able to resume his work as a cooper, though, of course, he will never be able to handle paint. There is thus every encouragement to continue in the same way.

Contrast this case of wrist drop now for a moment with that before us last week due to pressure upon the nerve and present in but one hand. In that case the very fact that but one hand was exclusively affected enabled us to exclude lead palsy. The individual thought he had taken cold, and most of these cases come to us with a history of lying out over night, sleeping against a damp wall, opposite an open window, etc., etc. But a close observation in all these cases shows that pressure upon the nerve produces the lesion and not cold. So a certain percentage of infantile paralyses of the legs, and more especially the arms, are found to be due to pressure, especially when the pernicious habit of swathing the limbs is resorted to. It is like the paralysis of the coachmen who fall asleep upon their boxes with the reins wound tightly around the arms, or the water-carriers who compress the nerve with the handle of the bucket. Crutch paralysis is a familiar example of the same lesion.

In this case both hands are, or were, affected, though the right more than the left. But in this case it is also the musculo-spiral nerve which suffers and suffers almost exclusively. Pressure or strain can in no way explain it, because it extends to and involves other muscles, the deltoid, the interossei, and in some cases the muscles of the lower extremities. The muscles paralyzed by lead are affected through the nervous system, symmetrically affected as we see, so that it is highly probable that the cause is central and not peripheral, as similar atrophy is found in the spinal atrophy of children, the so-called infantile paralysis which is clearly an affection of the spinal cord. But our patient is still able to produce motions of pronation and supination, which shows us that these muscles are unaffected, and this fact alone would enable us to diagnosticate saturnism as its cause, because a pressure paralysis, even supposing a case in which both arms had been involved, would affect these muscles as well as the extensors.

DIFFERENTIAL DIAGNOSIS BETWEEN PLEURISY AND PHTHISIS.

This young man I have brought before you as a very interesting case for establishing a differential diagnosis. He says he took sick about fourteen months ago, his illness beginning with a dizziness and pain in the head, fever, etc., for which he consulted a physician who told him he had typhoid fever. After an illness of three months he began to cough, lasting now about one year. He never had pain, but he did have great shortness of breath, and he cannot lie on the left side because it causes him to cough.

Looking at the patient's thorax, as he breathes, the first thing that strikes us is the immobility and flatness of the left side of his chest. You observe also when he turns his back that the right scapula rises much higher than the left, which remains almost immobile during a deep inspiration. On auscultation I hear no conduction of resonance, and on palpitation I observe absence of vocal fremitus. On percussion you hear that there is dullness, though not absolute flatness, over the left side of the chest. Let me here call your attention to one important point; it is not so much the *sound* you rely upon in percussion as the impression you feel on your finger used as a pleximeter when it is being struck with the other hand: where there is dulness you feel pain when striking on the finger, which is not felt when there is resonance. The feeling in your struck finger is different when placed against a solid hard substance and upon a hollow resonating body. For this reason the fingers are to be preferred to the pleximeter and hammer as you can judge of the condition of things even when there is too much noise to distinguish the differences in sound.

Now all these symptoms would lead you to suppose that this is a case of pleurisy and, in fact, that was the diagnosis rendered in this case. With this diagnosis the case was sent to the surgeon for relief, but the surgeon being in doubt sent the case to us.

There is, however, one point which would indicate that there is no pleurisy with effusion and that is that the apex beat of the heart—which is here so prominent—is pushed out to the wrong side to indicate a pleurisy of the left chest. The impulse ought really to be to the *right* of the nipple, whilst it is here to the *left*.

I call your special attention to this point as it is of the highest import in the early recognition of pleurisy with effusion. Normally we say the apex of the heart strikes or beats one inch below and within the nipple. Now here the apex beats one inch below and without the nipple. I go so far as to say to you, from this fact, that this cannot be a case of pleurisy with effusion, unless the pleural sac is bound down to the pericardium, which is only very rarely the case. Because the heart swings in the thorax fastened only by the great vessels at its base. It owes its exact place or position to the nice resiliency of the lungs. But if we take up pleural space by fluid we must necessarily limit the resiliency upon the affected side and thus swing over the heart to the sound side. You will see this displacement of the apex long before, certainly some time before, there could be any question of its being pushed over by the amount of the effusion.

I call your attention to another fact of very great importance in this case. When we percuss over the lower part of the left lung in front, down below the dullness of the heart we reach a space, a half-moon space, of resonance, clear distinct resonance, with the convexity upwards towards the heart, and the base at the edge of the ribs. This space corresponds to the cardia or the fundus of the stomach which usually distended with gas mounts up under the ribs and pushes against the diaphragm and lungs. Now when fluid accumulates in the pleural sac it falls downwards by gravity as a rule, bulges down the diaphragm and obliterates the half-moon space. That is, this space, formerly tympanitic, is now dull. But in this case before us the half-moon space of resonance is, as you hear, still preserved. Therefore there is no free fluid at least in the pleural sac.

Moreover the intercostal spaces are not bulged out in this case, and this obliteration of the intercostal spaces also shows itself by paresis of the intercostal muscles, from extension of inflammation from the pleura, long before there is any question of mechanical distension by accumulated fluid.

Therefore, I think, we have not to do here with a case of pleurisy with effusion at all.

The absence of pain would not exclude it of course, as many cases run such a latent course that it is only the pressure upon the lung, which reveals itself by shortness of breath, with progressive debility, that takes the patient to the physician.

The dulness to percussion, the absence of resonance and fremitus, I explain by the presence of thick old membranes over the lungs, evidences of an old pleurisy which has run its course, or better, evidence of a pleuritis sicca, a dry pleurisy in connexion with disease of the lungs. For I believe this to be a case of tuberculosis, genuine tuberculosis pulmonalis, limited to this one lung, and the presence of this disease explains the emaciation, the pallor, the shortness of breath which characterise the case.

[In order to confirm the diagnosis in this case the hypodermic syringe was introduced in two places into the pleural cavity, as a miniature aspirator, but no fluid could be withdrawn. The cavity of the needle contained each time only a drop of frothy blood.]

The prognosis is therefore far more unfavorable than if the case were one of pleurisy.

The treatment should be in the first place to surround him with the most favorable hygienic conditions. The best would be to send him to a climate so cold that the parasite of the disease could not live in it, that is a temperature always below 85° F. We should at least in this way prevent him from continually reinfecting himself. The moist warm air of the weather at present is best suited for the rapid growth and development of the bacilli. In the absence of this help we must attack the symptoms as they arise.

If we cannot attack the seed of the disease we can address ourselves to the soil upon which it grows. As there is but little fever we may give him cod-liver oil. We may also build up his strength with arsenic, and we may keep him as much as possible in the open air. But the therapy of this affection is a whole chapter by itself.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

[Reported by T. R. Coffman, M.D.]

FÆCAL FISTULA AT UMBILICUS. — RADICAL AND CONSERVATIVE TREATMENT OF ARTIFICIAL ANUS.

This child, 2½ years old, had had fair health until eight months ago, when a fullness of the abdomen began to be manifest, attended by colicky pains. Two months ago this swelling concentrated about the umbilicus, an abscess formed which opened spontaneously, through this fæcal matter escaped, and has been escaping ever since. *The bowels have not been obstructed at any time*, even now with a free discharge of fæcal matter from the abdominal opening, the child has ordinary anal evacuations.

This you will see is a very singular case, not having the usual history of fæcal fistulæ. Artificial anus, when not congenital, follows most usually obstruction—the most common arising from a strangulation. Foreign bodies sometimes lead to an abscess, which in pressing to the front allows the escape of the contents of the bowels. Foreign bodies lodged in the cæcum or appendix vermiformis sometimes work their way to the surface, leaving in their wake a patulous track through which fæcal matter passes.

This may occur without being attended with constipation. The cæcum and appendix are so situated that both or either may be involved in an abscess, and the lumen of the intestinal way not be obstructed — not even lessened. A knuckle of either of them may be caught and obstruction not occur. An adventitious opening for fæces occasionally follows a wound of the trunk, sometimes escaping through the back, loins, or presenting anteriorly.

Can we determine the part of the canal involved? In answer to this it may be said: (1) When the fæces escaping seems to be mature, you may infer that the larger bowel has been damaged. (2) Inoffensive matter shows that the contents of the upper small bowel are passing. (3) A yellow semi-feculent discharge points to the illium.

An examination of the discharge here shows that it doubtless is from the upper part of the track—the lower division of the illeum; it is semi-fluid, yellowish, and not intensely offensive.

When it is remembered that this child has ordinary evacuations from the bowels, the large quantity, which you see here almost constantly being lost, is remarkable.

What can be done for this condition? Can this adventitious opening be closed? The Surgeon always approaches the operation for ordinary artificial anus with much solicitude;—the safety of the patient and his own reputation are at stake. Before you can properly study the treatment of this case, you must understand how it differs from a fistula following a strangulated hernia. In this latter a knuckel of bowel is caught—the ring grasps the parts so tightly that the fæcal way is blocked—absolutely closed—the fæces cannot pass; sloughing occurs, and leaves two sections of the bowel, that above the strangulation and that below, resting beside each other. The outlet of the two has not inaptly been compared to the distal end of a double-barrelled shotgun. A spur-like process from the farther wall projects into the opening; this is often so large as to prevent the passage of fæces downwards, its obliquity throws them to the outlet, from which they escape. It is said a knuckle of bowel may be so small—may involve so little of the wall as not to obstruct. This I have never been able to comprehend. It seems to be physically impossible, except as heretofore said it may happen with the cæcum and appendix.

The history of this case shows an abscess, in the formation of which but a part, a block of the walls of the bowel was involved. A limited slough, a defined gangrene, circular but irregular in outline, occurred. This, and this only, being the damage, we can understand how the lumen of the bowel has been maintained, allowing a part of the contents to escape while most of them are passing *via naturalis*.

Treatment.—The surgeon always approaches the treatment of fecal fistula, of artificial anus with, as heretofore suggested, a consciousness of uncertainty as to the result; failure is the usual history recorded, and although now and then success follows a radical operation, it must, however, be admitted that a conservative course, a truss and a pad reinforced by great attention to cleanliness, has been well nigh as successful.

In discussing the treatment, the cause of the abnormal opening should never be lost sight of. The enterotome of Dupuytren, the forceps of Gross and the instruments of Loetz were devised for cases following strangulation, the destruction of a loop of intestine, resulting from hernia. In such cases a section of bowel has been lost, and the argument of the operation is that the whole tube must be restored, posteriorly by the enterotome, in front by a plastic process. In fæcal escapes, like the one before you, the most advanced operators rely (1) Upon position. (2) Vivifying or cauterizing occasionally the edges of the opening. (3) The application of a well fitting truss. (4) The observance of untiring vigilance in cleanliness. (5) Avoiding as far as possible fluidity, keeping the bowels safely costive. There is too often an aggravating tendency to prolapsus of the mucous lining of the intestine. You should never loose sight of this, if it can not be replaced and kept within the margins of the opening, but little suffering is likely to follow its destruction by the actual cautery, by the furnace heated iron or that made so by galvanism. A moments reflection will show the necessity for this destruction; whilst it is prolapsed the sides of the fistula can not be approximated, its lumen cannot be lessened; nature makes an effort, but an ineffectual one, at strangulation, hence the operator is usually forced to interfere.

Whilst the surgeon shows great fidelity in these cases, the patient must cultivate the virtue of patience; time is an important factor, the slow process of repair must be measured not by days but by months, and even years have been consumed before the end sought has been obtained.

I need not caution you to instruct your patient upon the use of a plain diet, it should be nutritious, not bulky, but concentrated. Starchy food should be as promptly digested as possible. The diastase in malt, such as you may find in the extract, will be a strong auxillary. Especially should those substances which, under a defective digestion, generate gasses, be avoided, these passing, damage the delicate process of repair more than the presence and exit of the solids.

For this child I have ordered an apparatus consisting of a rubber—webbing—encircling band, with a pad formed to fit the depression in the centre of which is situated the fistula. The elasticity of the band, the fidelity of pressure, is its most important and essential factor, muslin, or linen will hardly answer, steel is better, but inconvenient and uncertain in its action. Months hence, it may, perhaps, be years, I may be able to report success by this conservative, but really only plan of treatment for this child.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of November 3rd, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*
W. H. WENNING, M.D., *Secretary*

Tetanus—Its Symptomalotogy and Pathology.

Dr. P. S. Conner remarked that the comparative frequency of tetanus of late, especially in this city, had induced him to offer this subject for discussion. He would suggest certain points to the consideration of the members, some of which are at the present time but imperfectly understood. Among the questions that he would like to have discussed were the following. What is the etiology, the pathology and the proper treatment for tetanus? Does it originate otherwise than by trauma, that is, is it also idiopathic, and if so, what is the cause? Why are some wounds, whether grave or not, followed by the tetanic spasm? Does the disease depend on a germ or poison in the wound, or on a nerve irritant causing an ascending neuritis? Why does it prevail in certain regions more than others? For it is a recognized fact that tetanus is more prevalent in the frigid and torrid zones than in the temperate climate, also it is more apt to occur in those seasons of the year when there is the greatest difference of temperature between midday and midnight, namely, in the spring and fall.

Why does it sometimes take a mild and then again a severe course? When we come to treatment, shall this be local or constitutional? Will cutting off the nerve-supply by removing the limb prevent the development of tetanus? These are all questions that he should like to hear answered, and after the other members have discussed these points he would have some remarks to make on the treatment.

Dr. Ransohoff said that as it had been his misfortune to have seen quite a number of cases he would more especially discuss the symptomatology of tetanus. Pirogoff records but eight cases as having occurred to him in civil practice, whereas the speaker had thirteen. The symptomatology is especially interesting. Tetanus comes on like a flash of lightening; its symptoms are trismus, opisthotonus and convulsions. Death may occur in two or three hours, or only in five or six days. In the speaker's most rapid case death took place on the third day. It is a question whether traumatic and idiopathic tetanus are distinct forms of this disease. The existence of traumatic tetanus is not questioned; but rheumatic tetanus, coming on from exposure to cold, is regarded as a peculiar form by some, but denied by others. Langenbeck mentions an instance where a man, after being exposed to the breeze for some time, first experienced a severe pain in the jaw and died from tetanus in four hours. Sometimes a slight injury, where the skin itself is not in the least broken will be followed by tetanus. Consequently it cannot be said that the disease is due to a blood poison in a wound. A subcutaneous injury to a part is even more likely to be followed by tetanus than an injury with a large wound. In the Cincinnati Hospital was a man who had sustained a slight injury of the side; violent tetanus set in and death ensued after four or five days.

Taking the symptoms in order the first manifestations are a heaviness about the tongue, with difficult deglution; the patient complains merely of a sore throat, after which trismus intervenes. This beginning of tetanus is so common that Roser calls trismus the first stage of tetanus. It always presents itself. Most authors say that it is a spasm of the masseter muscles, that there is always a contraction of the elevators of the jaw and never of the depressors. The speaker had, however, one case—and Drs. Reamy and Drury who were present would add their testimony to the fact—where there was a decided spasm of the depressors. So also some modern authorities question the occurrence of any other spasm than that of the extensors of the back—opisthotonus, whilst undoubtedly sometimes also a contraction of the flexor muscles—emprosthotonus—a directly opposite condition, may occur. Pleurosthotonus is still rarer than emprosthotonus. The speaker had so far only seen cases of opisthotonus. True, sometimes patients in endeavoring to obtain the most comfortable position will lie on their side, but the convexity of the curve is backward. True cases of tetanus then are followed speedily by tetanus, probably because the nerves that supply the muscles of the neck have their origin not far separated from each other. This gives rise to the question for those that are to discuss the pathology: does the lesion reside in the spinal cord alone, or also in the brain?

After trismus, or contraction of muscles, we next have convulsions, not in all, but at least in many cases. When death ensues it is due to a long continued spasm of the diaphragm. The heart itself is not involved as may be shown from the fact that in etherized patients the pulse goes on regularly and quietly. It is only during a tetanic spasm that the pulse shows any deviation from its natural course. This is due to the pressure caused by the contraction of the voluntary muscles on the bloodvessels, in consequence of this the blood passes with greater difficulty and causes an irregular pulse. This also explains the non-involvement of the heart as only the voluntary and not the involuntary muscles are affected.

A singular fact is the rise of temperature just before death, sometimes as high as 106° F. Formerly it was thought that there was no fever but we now know that there is a rise of temperature. It is still obscure how to explain this rise of temperature, whether it be due to a contraction of the muscles or to some affection of the thermic centres. The post-mortem elevation is marked, as much as 110° having been recorded. It cannot be due to the contraction of muscles, as in other diseases, e.g., cholera, such a rise is also known. Probably the elevation of temperature is also an evidence of post-mortem changes as are the livid spots.

Can we recognize a case of tetanus from any change in the wound itself. In ancient times it was thought that the development of tetanus could be foreseen, as when a crushed wound showed gangrenous spots, these were considered precursors of the disease. The speaker said he never saw any difference in these cases from those of any other wound. In his last case, a gun-shot injury, the pus was copious and healthy, even during the most violent attacks there was no change in the discharge. This is, however, not always the fact.

Does tetanus depend on an irritation of the extremity of the nerves? The speaker though it did, because if a foreign body be removed, the tetanus is abbreviated. If the nerves are divided the tetanus is also relieved, because the source of irritation is removed.

As regards the pathology of tetanus, he considered it a disease purely of the nervous centres, arising from an ascending neuritis, even in the traumatic form where one part of the body is more exposed to an attack than the other. He could see nothing that pointed to the presence of blood poison.

Dr. Zenner said he would confine his remarks to the pathology with special reference to the morbid anatomy of tetanus. The literature on the latter subject, so far as it was of value in this discussion, was so limited that it would be detailed almost completely. At the same time speaker would, as far as possible, mention the reliability of the different investigators.

He had seen an assistant of Stricker present a microscopical section of the cord to Meynert for the coroboration of certain supposed pathological changes, where the latter pronounced that there was nothing abnormal to be detected. There could be no better illustration of the difficulty of forming a correct judgment in such matters.

The first pathological changes referred to were those described by Rockitansky, and later by Demme and Wagner, of an increase of the neuroglia, especially in the white columns of the cord. Reasons were given for believing that these results were due to imperfect methods of preparation.

Reference was then made to a report of Lockhard Clarke, one of the ablest and most reliable observers in the minute anatomy of the nervous system. Clarke reported in the Medico-Chirurgical Transactions, of 1865, the post-mortem examination of six cases The first case is reported in full. There were found patches of what the author terms granular degeneration in the grey matter, and, to a less extent, in the posterior and lateral columns. These diseased areas began on a level with the second cervical nerve, and became more marked as they proceeded downward, being most marked in the dorsal region. This granular degeneration was attributed to an exudation from the vessels (probably diseased) breaking down the neighboring nervous tissue. In the five other cases very briefly reported, there appears to have been similar changes. The author's conclusions are: (1) that the disease was not due to this granular degeneration, for the same changes are found in cases of paralysis where there has been no spasm; (2) that the cause of the disease is two-fold, first, an abnormally excitable state of the grey matter induced by the hyperæmia and morbid changes above described, these resulting from an ascending neuritis, or in a reflex way through the vaso-motor nerves; secondly, a persistent irritation in the peripheral nerves.

A case of Dickinson very similar to the preceding, and reported in the same journal in 1868 was next mentioned.

Michaud reports the results of four post mortem examinations in the *Archiv de Physiologie*, of 1873. His examinations were made at the Salpetriere and were under the control of Charcot. In one case there was spinal meningitis; in three cases the meninges were healthy. He found in all these cases diseased areas in parts of the white columns, more marked in the gray matter. But what he considered characteristic in these cases were the diseased areas in the posterior grey commissure. The diseased areas were somewhat similar to the patches of granular degeneration described by Ctarke. But M. believed that to be of inflammatory character, that there was a fibrinous exudation, and that numerous nuclei found in these areas were new elements formed by the neuralgia. He pronounces these, cases of subacute central myelitis. In all of them the lumbar region was most effected, even though the cause in one was a wound of the thumb.

Benedict reports a case in which there was great hyperæmia, especially of anterior cornua, and granular degeneration.

Aufrecht, of Magdeburg, gives a very full report of a post-mortem examination in the *Deutche Med. Wochenschrift* of 1878. Besides the hyperæmia the changes consisted chiefly of changes in color, and form of the large ganglion cells, most marked in the cervical region. He pronounces the condition an inflammation of the ganglion cells. The name of this author was not familiar to the speaker, but his article indicates that he was master of the subject.

Lastly a case of Luys, one of the most competent workers in this department, was mentioned. This case was very briefly reported at the Biological Society of Paris in February 1881. The ganglion cells were described as larger than usual.

Diseased conditions of the peripheral extremities of the nerves have often been observed. In a few instances a neuritis has been followed as far as the cord.

Changes in the ganglia of the sympathetic nervous system have also been described, whether reliable or not, the speaker did not know.

What conclusions are we to draw from the morbid appearances above described? Some believe them to be secondary, produced by the intense congestion of the cord caused by muscular spasm. The speaker gave reasons, taken from the character and the locality of the morbid changes, to exclude this exploration in some cases. Are these anatomical changes the essential features of tetanus? This question could just as decidedly be answered in the negative. The difference in the anatomical changes found in these cases, as well as the negative results always obtained by such men as Layden, Billroth and Cornil and Ranvier, prove that such coarse changes as those already described are not essential to the development of this disease.

We may explain these pathological changes by supposing that the pathological process, which is its basis and which is doubtless attended by increased vascular activity, by its intensity sometimes leads to secondary changes, as those described. The presence of disease of the vessels of the cord, mentioned in Clarke's cases, and stated by Layden to be no uncommon occurrence, will also help account for some of these changes.

As regards the true pathology of tetanus we are no farther advanced than where we began. We must fall back on the old explanations, functional disease, heightened irritability of the cord, reflex neurosis. But we may, perhaps, have a clearer idea of the disease than such words give us. We can not doubt that the seat of the disease is the cord, and we may believe that it is in the gray matter, particularly the ganglion cells. The symptoms lead us to believe that it involves the whole length of the cord, and also the medulla oblongata. Experiment would lead us to lay special stress upon the medulla. It is known that when the latter is removed the reflexes from the cord become less marked. So the medulla appears to have, in some way the property of increasing the reflexes of the cord, and we may suppose that property greater through a morbid irritability of the medulla. Then we may suppose the pathological process to be as follows.

First there is a heightened irritability of the cells in the cord, whether produced by ascending neuritis, through the vaso-motor nerves, or blood infection, the speaker would not pretend to say. This irritability extends upwards until it reache the medulla, and then we have the explosion of the disease. At least the first symptoms always point to the latter organ.

This is only theory. It is true that in all the latest observations above referred to some changes in the ganglion cells have been found, but we would scarcely expect any decided changes in these cells, for destruction of them is always attended by paralysis and wasting of muscles, a condition not found in the subsequent histories of cases that recover. Is it possible that we will be able to determine positively morbid conditions of the ganglion cells where the changes are only of function and not of form? The speaker believed so. He then referred to an article of Westphal on primary combined systematic diseases of the cord, published in the Archiv f. Psych. und Nerven-krankheiten, vol. IX.

In this article the author mentions that Juergens and himself have observed in some cases of disease of the cord where the ganglion cells retained their normal form, that if colored with methyl violet the cells colored differently from those of a healthy cord. So far as speaker knew like examination had never been made in cases of tetanus. But if the above view of the pathology be correct, we may hope that with the proper coloring reagents we might be able to detect such changes, for coloring reagents are at least partly chemical tests, and we would expect some chemical changes to attend the excessive cellular function.

The speaker added a few practical suggestions which grew out of this view of the pathology. They were as yet only speculation, but if they should prove to be true might be of much value.

There are some pathological conditions of the cord attended by contraction of muscles and exaggerated tendon reflexes, these symptoms probably depending on dynamic changes in the ganglion cells, such as have just been suggested as the cause of muscular spasm in tetanus. In one of these, secondary degeneration of the pyramidal tracts, exaggerated tendon reflexes precede the development of muscular rigidity.

The speaker had seen no notice, in the literature of the subject, of the tendon reflexes in tetanus. But if the latter and the conditions just mentioned be alike dependent upon dynamic changes in the cells, then it is possible that exaggerated tendon reflexes are present in such cases, even that they are the first symptoms. If this should be true it can easily be understood how valuable its recognition might sometimes be in prompting early surgical measures or internal treatment. At least it is worth investigating.

Another suggestion the speaker made with much hesitation. It is known that in animals artificial respiration carried to the point of apnœa would lessen reflex irritability. Would the same influence operate in tetanus? We can not resort to artificial respiration. What would be the effect of inhalation of oxygen?

DR. YOUNG said that he must differ with one of the speakers, who said that there was no difference in the appearance of the wound causing tetanus from that of any other injury. The speaker had always observed an altered appearance, the secretions were unhealthy and scanty, for he never saw a healthy, suppurating wound followed by tetanus. Also the general health indicates a disturbance; the most prominent symptoms are suppression of the secretions, dry skin and pinched expression of the face. Another constant symptom preceding tetanus is a jerking in the extremities but especially of that member which is the locality to deal with, usually the hand and generally after a slight injury. In all of his cases he had observed this jerking sensation. He never observed that marked opisthotonus so often referred to, namely a bending of the back, and thought that it was not so very common; the picture drawn by Sir Chas. Bell was so remarkable and unique that it has been copied in almost all text-books, and for that reason is taken as a common symptom. The evidence of tetanus resulting from injury follow rapidly, never lasting more than three or four days.

As he had always seen an unhealthy condition of the wound he treated it so as to encourage suppuration. For that reason he thought it necessary to examine the wound carefully and remove everything that could cause the development of tetanus. Therefore such injuries as crushed rail-road wounds are very bad.

In answer to a question whether he had ever seen tetanus follow after a subcutaneous injury, the speaker replied that he had not, nor from a fracture of bone or puncture of a needle. He had read of an injection of the bowels causing tetanus but when the case was examined post mortem ulceration of the intestine was found. Therefore he supposed that there was always a wound somewhere; in his cases he had constantly found an external injury. His first experience with tetanus was in the late civil war on the Kanawha River. Some of the soldiers had gone out picking berries when two of the men were injuried on their hands by the accidental explosion of a gun. As a battle was expected the following day the speaker was suspicious as to the real cause of the injury. The men being overheated, lay on the ground without covering that night and the following day one died of tetanus. The other was removed, but the speaker believed that he died. In both of these patients the jerking symptoms referred to were present. His last case was that of a man injured on the last Fourth of July by a sliver entering his hand. Tetanus in this case was very marked. Another severe case was that of a rail-road injury where the cars had passed over the foot, making an open wound. He was determined to take the risk and treated the injured part, but in spite of all the care that could be given the man died. He believed if the man had been properly treated he would not have got tetanus. The opium treatment is generally recommended and the speaker also adhered to it, though he admitted that if they escape under it, it does not follow that they would have suffered tetanus.

Dr. Davy referred to one of the symptoms mentioned by Dr. Ransohoff, a depression instead of elevation of the jaw. This occurs only after twenty-four hours, when the levator muscles have been in the state of a most rigid spasm. It may be accounted for by the fact that the muscles of mastication proper have become exhausted, and the contrary set of muscles, the depressors, become contracted.

As regards the pathology, he agreed with Dr. Zenner that the disease is mainly functional, if not throughout, at least in the beginning; and he supported Dr. Young in the belief that the treatment in the beginning explained the supposition that the implication of the spinal cord was secondary. If chloral has the effect of separating the wound from the spinal cord it breaks the disease; if it does not possess this property, nerve-stretching cuts off the nervous supply of the wound from the spinal cord and the trouble in the cord becomes secondary. The speaker saw a case in the hospital just this day, as the patient was breathing his last. He was shot by a toy-pistol last week in the index finger of the right hand at the junction of the second and third phalangeal articulations. The wound was one-eighth of an inch in length and one-sixteenth of an inch in breadth, extending abruptly through the skin and presenting ragged edges. On pressure two pieces of wads were forced out, one of which he presented. As they are nothing but pasteboard it shows that it is not always the cap that does the mischief. As Dr. Christopher had attended the case he called upon him for further particulars.

Dr. Cristopher said the case came into the Cincinnati Hospital last evening at seven o'clock and died this morning at eleven. He had tetanic spasms for twenty-four hours, The wads were found right over the radial branch of the nerve.

The speaker had seen seven cases in the hospital, two occurring in the last week. Some died in a very short time, one in twenty-four hours. One man had received a wound in his loin from falling and driving a pipe-stem into his body three days before admission. Cold applications were made, but during the night his breathihg became bad; he made a short inspiration with a sudden halt at the end of each, though he was asleep. In the morning the inspirations were the same and the legs drawn up in a flexed position. He had much abdominal pain and it was supposed that peritonitis had set in. At 2 p.m. he suffered great agony and sweat so profusely that the bed-clothes were soaked; he also had great difficulty in speaking. Large doses of morphine were given hypodermically but they did not control pain. At half-past three o'clock there was great contraction of the muscles of the jaw. At half-past four the wound of the back was cauterized with the thermo-cautery, and the sparms then ceased. From eight to ten he was put under ether. At night chloral was given in large doses at twelve, one, three, etc., thirty grs. in the rectum until he took 210 grs. in all.

The symptoms however, grew worse, and even the spasms were more marked. The pulse became weak and the patient died at three p. m., the tetanus lasting twenty-five hours. The temperature then was 103·4. The post mortem examination show slight local peritonitis.

Another case lasted thirty-six hours. The temperature here was 103 just before and $107\frac{1}{10}$ after death. In this case no post mortem was held.

(The Discussion on Diagnosis and Treatment of Tetanus will appear next week).

CINCINNATI MEDICAL SOCIETY.

Meeting of Nov. 14, 1882.

B. P. GOODE, M.D., *President.* W. H. M'REYNOLDS, M.D. *Secretary.*

Dr. C. P. Judkins exhibited a specimen of urine loaded with albumen and gave the following history of it. The urine was that of a young man twenty-five years old, a gambler, with the worst habits of a gambler.

Five years ago the doctor treated him for soft chancre followed by bubo, but no secondary symptoms. Within the past five years he had treated him for gonorrhœa many times. In March, 1881, he was called to see this man and found him in bed with a flushed face, high temperature, severe pain in the back and constipated bowels. After three or four days treatment he was up and about his business. But in few days after getting out he noticed some puffiness of the hands, which was soon followed by swelling of the legs from the knee down. His urine was copious, from thirty to forty ounces per day, and was heavily loaded with albumen, showing a large depost by the action of heat or the addition of nitric acid. Under the microscope casts and epithelial scales were seen. Specific gravity 1020. The doctor made an unfavorable prognosis, told the man he could not live more than a year or two. I gave him directions as to his diet and clothing, and enjoined upon him the strictest temperance and regularity in all his habits.

Instead of dying he improved in condition, the anasarca disappeared, his strength returned, and he grew fat. He has taken no medicine for this trouble since March, 1881. Instead of following the Doctor's directions as to diet and habits, he fell into his old ways of life, ate what he pleased, drank freely and kept very irregular hours. In fact he did, and still does, everything to make himself worse and yet he grows better. To-day he presents the appearance of a man in perfect health, and the only evidence of disease about him is the albumen in his urine.

What is the cause of this?

DISCUSSION.

Dr. Comegys said this case was very interesting and contained a warning we should heed. The presence of albuminuria alone should not pronounce the doom of a patient. It is a well established fact that it may exist for years without any other symptom of Bright's disease.

The habits of Dr. Judkins' patient would tend to produce morbid changes in the kidneys. The presence of albumen, the casts, the quantity and the sp. gravity taken altogether, give strong evidence of a tendency to parenchymatous nephritis. But the kidney is a large organ with immense ramifications of tubes. Disease may be present in one part of this organ, involving only a small portion, while the greater part remains healthy and performs its functions.

Dr. Meigs, in a late paper, gives some interesting observations made upon sixty cases of albuminuria. He found fatty casts and waxy casts in the urine of persons who lived afterwards for many years and presented every appearance of good health.

We can have albuminuria without Bright's disease. The casts are the worst feature in the case reported. The doctor then mentioned a case of a young man who came to his office that day fearing he had Bright's disease. His urine, passed on the spot, was examined, and found to contain albumen and also a large proportion of oxalate of lime.

The albuminuria in this case, Dr. Comegys believed, was caused by the irritation of the kidneys by the oxalate of lime, and will disappear by the use of muriatic acid, and regular habits of life by the patient.

He referred also to another case of oxaluria which he had treated in a little girl seven or eight years of age. She was in the habit of wetting the bed at night and her clothes in school daily. She was treated with muriatic acid and partially relieved. Tincture of belladonna completed the cure.

Dr. Fisher said he made his last fatal prognosis in a case of supposed Bright's disease, ten years ago. The patient was a baker, he grew weak, lost flesh, became anasarcous and his urine yielded a deposit of albumen. He told him he would not probably live longer than a year or at most two. Shortly afterwards he passed from under the Doctor's care and still lives, having the appearance of good health. Since then Dr. Fisher had seen many seemingly desperate cases of anasarca with albuminuria, and the result was not always fatal. Hence he had become very cautious about making an unfavorable prognosis.

Dr. Davy said his experience was similar to that of the gentleman who had preceded him.

He believed there must be some syphilitic element in Dr. Judkins' case. We cannot say a man has not syphilis because he does not show it. The primary manifestations might easily escape his notice. He might also fail to recognize the secondary symptoms if they were not severe enough to drive him to a physician. If this be the case specific treatment will afford relief. When iodide of potassium is of benefit in Bright's disease it is a proof that syphilis is the cause. Sometimes the most puzzling cases yield at once to specific treatment although we cannot find a trace of syphilitic history in them.

Dr. Judkins said he did not treat this man for constitutional syphilis because he did not see any signs of it during the six or seven years he had him under observation.

Dr. Comegys asked Dr. Judkins if he had observed any symptoms of uremia.

Dr. Judkins replied that he had not, he had no trouble of vision, no mental disturbance, no cerebral symptoms whatever. The interesting feature of this case is the man's recovery with the albumen and casts in his urine. A condition in which authorities agree that the prognosis is grave.

He then mentioned another case of error in prognosis. Some years ago he had treated a young girl for articular rheumatism followed by disease of the mitral valve. She had considerable anasarca, and her general condition was so low that he made an unfavorable prognosis. But her condition improved, the anasarca disappeared and she still lives, though she has the mitral disease.

DR. COMEGYS referred to a recent sudden death from heart disease in this city, and said that twenty-five years ago he had told the family of the condition of this patient's heart and his danger. But by regular habits and the avoidance of active exertion, his life had undoubtedly been prolonged.

We should not give such a grave prognosis in heart troubles generally, because the habits of the patient may be so regulated as often to prolong life indefinitely. He also spoke of the value of agents in reducing the hearts action to save its power in continued fever.

He had recently, in consultation with another physician, seen a case of typhoid fever in a young girl. The pulse was 130, and he proposed to give one drop of veratrum viride every hour, as a tonic to the heart. In twenty-four hours the pulse came down to 110 and was stronger. The doctor in attendance made a very interesting calculation by which he showed that this reduction gave the heart three hours rest in twenty-four.

Selections.

MEDICINE.

PARALYSIS, SCIATICA, INTERCOSTAL NEURALGIA, CHRONIC RHEUMATISM.—H. Mallory, M.D., Hamilton, Ohio, contributes the following to the *Clinical Brief and Sanitary News:*

I presume there are very few physicians at this day and age who question the utility of electricity as a remedial agent when directed by a skillful physician. But the high price of electric batteries, and their liability to get out of order, have caused many physicians to dispense with their use altogether. During the thirty-three years I have practiced medicine in Hamilton, I have bought half-a-dozen batteries and have been not a little vexed when I had occasion to use my battery to find it would not work. It is to suggest an instrument that is free from these objections, as well as to comply with personal and written requests of a large number of the medical profession that I write this article and give to the profession my experience with the Electric Brush Battery. This is a regular faradic battery, mounted on a metalic hair-brush, and gives a current powerful enough for ordinary purposes, while at the same time it can be regulated to suit the most sensitive or delicate child. I have now been using this Electric Brush Battery for ten months, and have obtained such good results from its use that I have not found it necessary to use any other, and for the benefit of the medical profession I will give a few of the many cases I have treated with this battery.

The first case was that of myself, and its history is full of interest. During the month of February, 1881, I accidentally fell from a step-ladder, causing a severe concussion of the brain, followed almost immediately by paralysis of my right arm and leg, which kept me in bed for three months, during which time I was under the treatment of Dr. Daniel Millikin, of this place. At the end of this time I was advised by him to consult Dr. William Carson, of Cincinnati, who diagnosed my case and discovered a lesion of irritation of the right corpus striatum.

I remained under Dr. Carson's treatment until the first of July, and then, at his suggestion, went to the sea-shore where I took daily ocean baths until the second week in September. I returned home greatly improved in health but not cured. I now resumed the use of electricity, having by the direction of Drs. Millikin and Carson—from both of whom I derived much benefit—used it before going to the sea-shore.

I now determined to give the Electric Brush Battery a trial and commenced using it by applying it to the spinal column, the head, arm and leg, moistening the skin over the parts with water before each application. The effect was most gratifying, and I improved rapidly, and in less than two weeks I was free from the muscular twitchings in my legs and my feet, which had existed since the date of my injury. I also recovered the use of my right hand, and was able to hold my pen and write—a thing I had not done for eight months. I soon regained strength to walk and attend to my practice, and while I have not entirely dispensed with the use of the battery (still using it two or three times a week) I am certainly as well as I ever was.

SECOND CASE.—Miss H——, aged seventeen years, had not walked for five months, the result of a dislocated ankle. She had been treated with plaster cast, starch bandage and lastly with a rubber bandage, which was still on when I was called to see her. On removing this bandage the foot was smaller than the other and she was unable to bear any weight upon it. I directed her to immerse the foot in warm water for fifteen minutes three times a day, and apply the Electric Brush Battery for the same length of time. For three days she was unable to feel the current of the battery, but after this sensibility returned, and ten days later she was able to bear the weight of her body on the lame foot. In six weeks she was able to walk without crutches and is now well.

THIRD CASE.——W. R.——, a grocer, aged fifty-five years, had for five months previous been suffering from pain, beginning in his right hip, and extending down to the back of the limb along the course of the sciatic nerve to the outside of the leg. He had been obliged to remain in the house, and said he had been under almost constant treatment. I recommended the use of the Electric Brush three times a day, keeping up the brisk friction with the brush over the sciatic nerve, and using the full strength of the battery. He said he obtained immediate relief from the first application. He continued the use of the brush daily and in four weeks after the first application was able to walk a mile. In two months he was well and able to take charge of his business.

FOURTH CASE.—V. B——, a carpenter, aged fifty years, came to my office with what he believed to be heart disease, and said he had suffered four weeks with a severe pain over the region of the heart. On examination and removing his clothing I applied the Electric Brush for fifteen minutes, when the pain disappeared and did not return.

FIFTH CASE.—Miss L.——, aged 22 years, had suffered two months with facial neuralgia, the paroxysms coming on daily at 9 a.m. She had taken quinine, strychnia and iron without apparent benefit. I used the Brush Battery for three successive mornings, breaking the force of the paroxysms and lessening the duration of the attack, and on the sixth day she was entirely free from pain, and has had no return of the disease.

SIXTH CASE.—Mrs. B. M——, had for five years suffered from chronic rheumatism, and had been unable to tie her shoes owing to a stiffness of her hands and fingers, which were wasted and almost bloodless. This was a most discouraging case, and I hesitated in advising the use of the brush, but she insisted on my doing something for her. She used the brush most assiduously for three months and was so much improved that she could put on and lace her shoes, and do many other things she had not done for years. She then returned to her home in Indiana, and took the brush with her, and reports a gradual improvement in her condition.

I have been careful and at length in reporting the above cases in the hope that other members of the profession may be induced to test the merits of the Electric Brush Battery and report results.

[The attention of our readers is called to an advertisement of the Electric Brush on our page 25.]

THE CONTAGIUM OF GONORRHŒA.—By C. R. Drysdale, M.D., M.R.C.P. London, and published in the *Medical Press*.

Dr. Elkund, of Stockholm, has sent me a manuscript in French, on the microscopic organisms seen in gonorrhœa. In order to arrive at some conclusion about this curious point in contagion, Dr. Elkund has made many microscopic examinations of gonorrhœal pus, and also of the most superficial layer of the mucous membrane of the navicular fossa, which latter he removed by means of a small knife, used for microscopic dissections, which he introduced into the canal of the urethra to the length of about two or three centimeters. He studied this latter preparation in its natural state, being convinced, from experience, that this was the best way to avoid false conclusions. Sometimes he added a little acetic acid, or solution of analine. as, for example, fuchsine, and also carmine, etc.

In the first place, he always found the gonococcus described exactly by Neissen, the diameter of which varies from less than 0·1 to 0·5 mm., and larger. These are as brilliant as pearls. The whole of the round cells called pus, are full of these, and they are also found in innumerable quantities in the inter-cellular liquid. Sometimes they move rapidly, sometimes they are united like a figure of eight, which, according to Neissen, proves that their pullulation takes place by scisson. When tinged with analine violet it is seen that the gonococcus is a flat plain disc, not a spherical ball; but Dr. Elkund cannot agree with those who maintain that these microbions represent the only specific part of gonorrhœa, since he has found similar and probably identical ones in acute and chronic disease of the intestines and lungs, and in ulcerative stomatitis. Generally he thinks it the common office of these organisms to produce acute inflammation with desquamation of the epithelial cells, and the formation of pus cells which are filled by them. Indeed, these organisms represent troups of miners in pathology. Long ago the same writer found that in cases of gonorrhœal cystitis, the cells of pus from the bladder were, as a general rule, furnished with appendices, either filiform or gemmiform. The pus and exudation of the inflamed mucous membrane of the urethra contain, without exception, a beautiful network of mycelial filaments. The principal filaments of the organism in question, which Dr. Elkund calls *ediophyton dictyades* have a transverse diameter of precisely 1 mm., and are perfectly clear and hyaline. Thes filaments anastomose with each other at all angles. The mycelial tubes here and there have complete networks of swellings, the limiting lines of which are either regular or very sinuous. The parasite in question, like all similar, is gifted with the power of propagation by the simultaneous lengthening of an immense number of mycelial filaments or fragments of secondary ramifications of those which proceed along the superficial layers of the mucous membrane, and which enter into the glands of Littre, Cowper, etc. It is truly exceptional for this little organism to burrow, like the one seen in diphtheria, so as to produce a general infection, for the firm fibrous tunic surrounding the urethra forms a solid rampart to prevent the advance of the mushroom, and the organic resistance of the patient is generally greatest at the epoch when a man contracts gonorrhœa.

As a general rule, the ramifications of the mycelium run most along the surface of the mucous membrane of the urethra, the fundus of the bladder, the ejaculatory ducts, the seminal vessels, and deferent canals, etc. In cases of chronic catarrh of the lungs after gonorrhœa, Dr. Elkund says he has noticed the gonococcus of Neissen, and the the microbion just described in the sputa. He says that it is well known that in the urine of scarlatina patients there are found filaments of mycelium long and hyaline, and alleges that in cases of female patients such urine may set up gonorrhœa in the vagina; and he has constantly found the same mushroom in the gonorrhœal discharges of women.

Dr. Elkund says that in all his microscopic examinations of the pus, and superficial layers of soft sores he has found the gonococcus of Neissen and the *ediophyton dictyades*. He, therefore, believes the virus of soft chancre and that of gonorrhœa are identical. It is only, he puts it, the difference of the affected localities which cause the difference in symptoms, a solution of continuity being necessary to produce a soft sore, Surely, this is not worth alleging without experiments, and, as a rule, experiment flatly contradicts the assertion of Dr. Elkund.

The author also says that the microbions of balano posthite consist in vibrios of putrefaction. Such are often found in the Douglas cul-de-sac of women, and may give rise to grave peritonitis in some cases.

Dr. Elkund made some microscopic experiments on various therapeutic agents commonly used in gonorrhœa. Saturated solution of borax did not seem to influence the organisms. A solution of perchloride of mercury had but little effect on them (one in ten); but the tincture of *Eucalyptus globules* had a good deal of power in causing the movements of the gonococcus to cease.

He has succeeded in curing patients, after disappearance of the acute stage of gonorrhœa, by means of cold sits baths and injections of solutions of phenic acid, or chloral hydrate; one to six hundred of the first, and one in 150 of the second; giving at the same time copaiba and cubebs. He found that in convalescence from gonorrhœa the gonococcus first disappeared from the urine. The edilophyton are very difficult to be got rid of.

The conclusions of Dr. Elkund then are. 1. Diagnosis. The elements of diagnosis in gonorrhœa are comprised in the discovery by microscopic examinations of the presence of the gonococcus of Niessen and of the *ediophyton dictyades* in the pus which is examined. As to prophylaxis, extreme cleanliness is enjoined to prevent fragments of the latter entering the passages.

Treatment.—Introduce as soon as possible into the urethral canal of the male, as deep as from three to six centimetres, a bougie covered with carbolized oil, and made of iodoform and ten drops of essence of *Eucalyptus globules* with cocoa butter 2·5 grammes, which is then allowed to liquefy in the canal. Excoriations he recommends to be touched with a hair brush dipped in a solution of iodoform in essence of eucalyptus (one in ten).

The cure will follow in proportion as the microscopic organisms can be killed by this treatment. The remedy recommended by Dr. Watson Cheyne, viz., of bougies, as above mentioned is an excellent remedy, according to Dr. Elkund.

I have no means of saying how far Dr. Elkund is right in his assertions as to the presence of peculiar microscopic appearances in gonorrhœa, but there seems a possibility that it is so. I do not agree with him, however, when he talks of the identity of the virus of gonorrhœa with that of soft chancre, for I have not been able to produce the latter on patients by inoculating them with gonorrhœal pus. Syphilis eventually will, in all probability, be found also to have some special germs.

HENOCK ON A CASE OF TUBERCULAR PERICARDITIS AND PERITONITIS.—The interest of this case, detailed by Dr. Henoch (*Verhandlungen der Berl. Med. Gesellsch.*, Band xii, p. 69), lies mainly in the clinical history. A boy, aged 8 years, was treated for severe pericarditis arising from no ascertainable cause. He recovered perfectly, as far as physical signs could prove that fact: inspection, palpation, percussion, and auscultation giving absolutely normal results. Two months after his discharge from the clinic he was readmitted for quite another complaint, viz.: enormous ascites. The liver seemed enlarged—a fact confirmed when the fluid was on two occasions removed by puncture. There was no albumen in the urine, and no general œdema. Not a single painful point could at any time be discovered in the abdomen, and the heart which was carefully examined, seemed perfectly normal. After this the fluid gathered again, and now it began to drain again from the umbilicus, which was perforated like a sieve, till the ascites was very much diminished. Seven months later, the boy died with the usual marked symptoms of tubercular meningitis. The *post mortem* examination showed complete adhesion between the heart and pericardium, both the pericardium and left pleura being closely studded with miliary tubercles. There was no fluid in either pleura. On the liver and in the mesentery were bean-sized tubercles. The omentum was over an inch thick, chiefly formed by pea-sized tubercles. The liver was enlarged and fatty. There was marked tubercular meningitis. The lungs were perfectly free from tubercle. Dr. Henock emphasises the absence of any symptom of the pericardial adhesion. The pericarditis he believes to have been propagated from the pleura. He has found chronic tubercular peritonitis in children generally absolutely painless, although he admits that in certain cases they complain of pain if firm pressure is made. He has never seen the fluid make its way through the umbilicus, although he has frequently seen chronic peritoneal abscesses open there. Treatment is useless, but, as the affection may, he believes, be non-tubercular, he uses iodine alternately over each quarter of the abdomen.—*The London Medical Record.*

TREATMENT FOR TAPEWORM.—The writer has for many years past received occasional letters of inquiry as to what is the best drug for the expulsion of tapeworm, and the inquiry is generally accompanied by the statement that a case is under treatment which had resisted all the ordinary parasiticides, such as pumpkin seed, male fern, kooso, bark of pomegranate root, turpentine, etc. As any one of these drugs is sufficient, under any ordinary good management, to expel the parasite, and as the inquirers had generally succeeded in most of their cases with some one or other of these medicines, it has generally been concluded that it was not a question of the choice of a drug in the obstinate cases, but rather one of the location of the attachment of the head of the worm in the intestinal canal.

When the writer served as demonstrator of anatomy many years ago, he observed that there was great variation in the location of the head. Sometimes it would be found attached up near the duodenum, and at other times down near the ileo-cæcal valve, and that the attachment was not unfrequently in a little pouch, or under a fold of mucous membrane; and that the head was always imbedded in a nidus of firm jelly-like substance, like inspissated mucus. This led to the conclusion that such cases would be very differently affected by treatment, and that a method quite efficient for some cases would be likely to fail in others from the difference of location, and further, that the obstinate cases were those where the attachment was so low down in the canal and so protected that it was difficult to get the parasiticide in contact with the head so as to poison it, and cause it to let go its hold. A few years later when in the eastern part of the Mediterranean, where uncooked sausages are largely eaten, the writer and others became affected with tapeworm, and he had good opportunities for observation, and was confirmed in the belief that the location of the head had much to do with the resistance of all obstinate cases, and that when the treatment was carefully directed by this consideration it was almost always successful, and that one parasiticide was about as good as another when well managed. Further experience at that time seemed to show that pumpkin seed and oleoresin of male fern were the best agents to use, and that there was but little choice between them. A plan of treatment was adopted which has been since given to so many physicians and patients with such general success that it may be worth while to publish it.

After a light dinner, near the middle of the day, the patient should take no food, but may drink freely of water. At bed-time a saline aperient should be taken in effective dose, and there is there is nothing better than one or two Seidlitz powders. This aperient should be a saline, because these cause a copious effusion of serous liquid from the whole mucous membrane of the canal, and this effusion taking place from the surface where the head of the worm lies protected by the dense mucus, detaches the mucus and washes it away, leaving the head bare for contact with the parasiticide, when otherwise it would pass over it without direct contact, and therefore, without effect.

Whether this aperient at bed-time operates or not, it should be repeated on the following morning, the patient still abstaining from food. After the second saline has operated freely, or say at about ten o'clock the medicine should be given. Four ounces of pumpkin-seeds are well beaten in a mortar, half an ounce at a time, a few drops of water being added from time to time until they are made into a paste. The shells need not be rejected, as they are rather useful than hurtful. Water is then gradually added to the paste with trituration, until a tolerably uniform emulsion is made measuring about a pint. This may be flavored if desired and iced, and is to be given in three doses at intervals of about two hours, beginning at about ten o'clock. During this time the patient should lie quietly in bed and avoid all causes of nausea or vomiting, and should correct these if they occur by a little ice taken into the mouth and stomach. The stomach in need of food will often digest the first dose, but a tendency to nausea will prevent the digestion of the others, and the third is often difficult to take without vomiting. By careful management and quiet the inverted peristaltic action may be generally avoided. But when it occurs early and is persistent the treatment is likely to fail, because the inverted action of the bowel prevents the emulsion from getting far enough down to come in contact with the head of the worm. Commonly, however, the peristaltic action will not be reversed, and about the time of the third dose or a little later there will be an alvine evacuation. But if within an hour after the last dose, a half fluid ounce of castor oil should be given in a little ale or porter. The evacuations should be received in a vessel partly filled with water so that the worm can be easily examined from end to end of each portion without breaking, and when the part is reached where the links grow smaller great care should be taken to find the head, for unless this be found the success of the treatment is by no means assured. And if the head be not found, detached links may be expected in the stools within three or four months, and the treatment will need to be repeated with larger preliminary fasting and greater care.

In a second trial, or when persistent vomiting has interfered with the first to invalidate it, the oleoresin of male fern may be substituted for the pumpkin seed. This is more easily taken than the large doses of emulsion, and is not so easily digested by the stomach, nor so liable to produce nausea, and from being an oleoresin, and therefore less soluble in the liquids it is with, it is more likely to reach the head of the worm in a condition sufficiently concentrated to be a poison to the head, but it is probably a less active poison to the head than the pumpkin seed, and therefore less sure.

The oleoresin may be given in emulsion made with sugar and gum arabic, or with glycogen, but is perhaps better given in capsules, containing about ten grains each. Two of these should be taken every quarter of an hour until twelve capsules have been taken, unless nausea occurs of sufficient severity to endanger their rejection. Under such circumstances eight or ten capsules may be used as being all that can be safely given.

The oleoresin has often, especially in cold weather and when of good quality, a thick granular sediment. This should be carefully stirred in before weighing, as it is a very important part of the drug.

Of course the same careful preparation of the patient is needed with this as with the pumpkin seed, and neither of them should be expected to succeed in obstinate cases without the careful preliminary treatment.—*Squibb's Ephemeres.*

WIDERHOFER ON THE DIETING OF INFANTS.—Professor Widerhofer of Vienna (*Wien. Allgem. Med. Zeit.*, Nos. 27, 28, 1882) has recently discussed the subject of infant dietetics, laying down clearly the indications which justify the feeding of babies by other than the natural means. Children of feeble vitality are frequently unable to suck, and require artificial feeding. By means of the scales, we may get a fair indication of the degree of vital strength, by assuming the average weight of a healthy child at birth to average three kilogrammes. Any less weight would then indicate weakness, whilst any child of less weight than two kilogrammes would be classed as one of feeble vitality. With this diminished weight, there are usually definite symptoms of feebleness to be found. Irregular cardiac action, shallow breathing, and depressed temperature are often present, and must be treated with special care. At first, the mother's milk should be given either with the spoon to the mouth, or by means of injection through his nose, by which the movements of swallowing are more easily excited. These cases are frequently lost from very trifling ailments, especially from slight bronchial catarrh. Children who are able to suck may be fed (1) by the mother's milk, (2) by that of a nurse, or (3) by artificial means, either entirely or in addition to breast milk. Of these, the mother's milk is to be preferred, even if imperfect, to the most perfect of wet-nurses. Various causes, however, may interfere with the function in the mother; malformed nipples or imperfect secretion of milk, constitutional disease, as tubercle, epilepsy, etc., or previous inability to rear children. A breast in proper condition for suckling should have veins distinctly visible, an easily erectile nipple, and should discharge from seven or eight points. Breasts which ooze spontaneously are never good, producing but little milk, which lasts but a short time. The best guide to the choice of a nurse is the state of health of her own child. Especially, the state of the bowels and its digestive powers should be regarded. The period of weaning can not be fixed as a hard and fast rule. Generally speaking, after the nurse has menstruated once or twice, the milk becomes altered, and disagrees. If this occur early, it is sometimes advised to provide another nurse for a period, before commencing to wean. No special diet is necessary for a wet-nurse, but abundant fluids should be taken; her weight should not fluctuate during suckling. The indications for weaning given by the child itself are usually the outcrop of the teeth and the amount of salivary secretion. The time of year, however, is also of importance, since the quality of cows' milk of necessity varies with the season. In March and April it is generally at its worst. Weaning should be avoided at times when diseases of digestive organs are most common, as for instance, in July and August. Artificial feeding may be complete, or may interchange with breast-feeding. The latter is of necessity most in vogue with the poorer classes. Of all milks, mares' milk comes nearest to human milk in composition. Then follow asses', cows', and goats' milk. Imperfect digestion of milk must be met by varying the source of the milk, or by making various additions to it. Carrot-meal, stale bread-crumb, arrowroot, soda, or salt, are often of service. The familiar device of rendering cows' milk available for children by the addition of water and sugar, may be made more complete by the further addition of a small quantity of cream, which renders the subsequent transition to undiluted milk more easy. In all cases, the cows' milk should be boiled before use. Condensed milk is valuable on a long journey, especially by sea, but in such cases children should be trained to its use for a short time before starting. "The numerous foods for infants," concludes Professor Widerhofer, "though much be puffed, are of no value whatever."—*London Medical Record.*

SCHUTZ ON ATHETOSIS.—Schutz (*Prager Med. Woch.*, 1882, Nos. 3 and 4) relates a case of athetosis of the fingers in a man whose right extremities had become gradually paralyzed. At the necropsy, he found softening of the left optic thalamus and also of the head of the caudate nucleus. The internal capsule was involved, especially at the junction of the middle and anterior thirds. The posterior part was intact. In a second case, there were general convulsions, followed by feebleness of the left half of the body. Later on, there were involuntary spasmodic movements of the hand and foot. He ultimately recovered. Schutz thinks that in this case there was an inflammatory focus in the right hemisphere, which, perhaps, involved the same parts as in the first case.

HOMATROPIN IN THE NIGHT-SWEATING OF PHTHISIS.—Dr. Fronmüller prefers homatropin to atropin as an agent for checking the night sweats of phthisis. He administers it (*Memorab*, 1882, Heft 1) in the form of pill, containing about one-fourth of a grain of the hydrobromate; This dose, he finds, acts effectually in almost every case, and in the great majority of cases the effect persists over the following night also. In none of his cases was there dilatation of the pupil, and in very few were there other toxic symptoms, such as dryness of the throat, etc. Dr. Fronmüller finds homatropin also an immediate and certain antidote to pilocarpin. In both respects he considers that the action of homatropin is more constant, and quite as effectual as the more dangerous atropin.—*London Medical Record.*

LITTEN ON A MYCOTIC RENAL DISEASE.—Dr. Max Litten (*Zeit. für Klin Med.*, Band iv, sec. 191), relates two cases of sudden rigor, fever, and albuminuria, followed by uræmia and death with suppression of urine, in which the kidneys were crowded with bacteria. Bamberger and Aufrecht have described similar cases.—*London Medical Record.*

MASALITINOFF ON A CASE OF ANGINA PECTORIS SUCCESSFULLY TREATED BY SCULPTOR'S CLAY.—Having persued Dr. Sokoloff's article (see *London Medical Record*, Aprill 1882, p. 144) Dr. Masalitinoff (*Vratch*, 1882, No. 11) resolved to try the same method in a severe case of angina pectoris of four years' standing in a patient aged 22, suffering from old postrheumatic insufficiency of the mitral and aortic valves. Of late, the anginal paroxysms appeared two or three times weekly, always at night, returning in from 2 to 4 hours, lasting from fifteen to sixty minutes, and preventing the patient from sleeping. Quinine, amyl nitrite, arsenic, valerian, etc., entirely failed to relieve the agonizing pain. Dr. Masalitinoff ordered the application of cakes of moist sculptor's clay to the cardiac region twice a day. From the very first application, the patient felt greatly relieved, slept soundly through the night, and on the next day no traces of pain remained. At the end of three weeks, the patient remained entirely free from any cardiac pain; he was now scarcely recognizable; he became strong, cheerful and gained in weight. The author used 'home-made' sculptor's clay in this case. He took finely ground plaster-of-Paris, and moistened it with water, thus making a soft paste, which he spread on a piece of linen and applied to the painful region.

Hardy on the Treatment of Locomotor Ataxy.—Professor Hardy thus summarizes the treatment of this affection, at the end of a lecture reproduced in the *Gazette des Hopitaux.* 'The chapter of treatment is unfortunately but a very short one; for, as a rule, whatever we may do, ataxy follows a progressive course. However, there are some cases in which not only is it possible to relieve the patient, but also to delay the progress of the disease. The treatment which succeeds best, and which is generally advised, is that which has for its base iodide of potassium. Nitrate of silver is likewise a good means, employed concurrently with iodide of potassium, although it has not always fulfilled the promise given by it. Therefore, I give during fifteen consecutive days two grammes of iodide of potassium, then during the fifteen following days two or three centigrammes of nitrate of silver in pills, each containing one centigramme. Finally, recourse is had to rubefaciants; blisters, cauteries, applications of tincture of iodine on the sides of the vertebral column, and especially the actual cautery, to the number of ten or fifteen, repeated every eight or ten days. These are not very painful. Sulphurous baths are likewise recommended. For the lightning pains, extract of belladonna, sulphate of quinine, salicylate of soda, in doses of from three to five grammes, and hypodermic injections, are prescribed. Hydrotherapy has been vaunted for ataxic cases; but I have not been able to discover that any benefit has been derived from it. I prefer mineral waters, slightly mineralized, but alkaline and warm, such as those of Neris, Plombieres, Lamalon, etc. The latter especially tend to diminish the pains, to improve movement, and sometimes even to retard the progress of the disease. Such are the means pursued, not to cure locomotor ataxy, but to retard its progress, and to give relief to the patients who are attacked by it.—*London Medical Record.*

A New Medical College at San Francisco. A new building has been erected by Dr. L. C. Lane, at a cost of about $85,000, on a lot worth $15,000, and conveyed by him as an unreserved donation to the Cooper Medical College, which is a re-incorporation of the Pacific Medical College, the Faculty of which remains unchanged. The College is named after Dr. Elias S. Cooper, now deceased.—*Medical Record.*

We are pleased to acknowledge the receipt of an interesting article entitled "Die Verwendung des Lapisstiftes zur Untersuchung der Epithelien" from our friend Dr. Eric E. Sattler, formerly resident physician of Cincinnati Hospital, and now pursuing a special course of study at Strassburg.

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The editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, December 2d, 1882.

The Week.

December!—Many of our readers will notice that their subscriptions expire this month. A prompt renewal with remittance will greatly oblige the publisher.

Our friends will remember that they can obtain both the Lancet and Clinic and the *Obstetric Gazette* for $5.00 per year. This is by far the cheapest medical literature offered to the profession.

There is a great deal of foolishness going the rounds of the medical journals about the physician's fees in President Garfield's case. If we have the right to fix the value of the services of these gentlemen in this case, why not in all cases? Would we not better inquire what they charge all their patients? Having discovered this, migh we not extend our solicitude and care to their other private business and see whether they are not extravagant in the way of dress, or cigars, or wine? Is the fact that these physicians were called to attend President Garfield prima facia evidence that they havn't sense enough to attend to their own private business? Can we not rest content with having officiously proffered our valuable (?) advice in the diagnosis and treatment of a case, about which we know nothing except from hearsay, without venturing to fix the fees of the attending physicians? If all the physicians in this country (and abroad) would send in bills at all commensurate with their own opinion as to the value of the service, for the unasked opinions which they have given on this case, the fees now asked would appear utterly insignificant. Would Congress quibble about paying lawyers of equal professional standing for work of equal responsibility the sum which is asked in this case? The great trouble is not that the fees in this particular case are too high, but that our profession in general, places too low an estimate on the value of their professional services.

Oxford Retreat, Oxford, Ohio.—Dr. D. A. Morse, late Superintendent of the Insane Asylum at Dayton, Ohio, has established and set in motion the above-named private institution for treatment of nervous and mental diseases. This institution is opened under most favorable auspices; the building, erected at an immense cost, has elegant accommodations and is admirably adapted to its present use. Dr. Morse is so well known as a specialist in this branch of the profession that it is unnecessary for us to speak of his thorough fitness for the place he occupies, and that no effort will be spared to make this a desirable place to send a private patient for special treatment.

The report of the Secretary of the North Carolina Board of Health contains, among other good things, an article on "The Relation of Nostrums to the Public Health." He makes the following quotation from a paper read before the Michigan State Sanitary Convention, held at Battle Creek in March, 1881:

"Now to what extent are the so-called "patent medicines" consumed in the United States, in the State of Michigan, in the civilized world? In the absence of statistics, an estimate sufficient for present consideration may be asked of any person who walks abroad in these days. A few years ago an inquirer drew the conclusion that about eighty million dollars worth are annually sold in the United States, this being at the rate of two dollars for each man, woman and child in our country. This may be below the true estimate. But it is an outlay exceeding that for some things in which we are held to be liberal. For the salaries of all the teachers in all the public schools of this proud State of Michigan the yearly payment amounts to but one dollar and thirty-two cents for each inhabitant. The total expenses in the public schools of the United States do not require payment of over two dollars from each inhabitant. We may claim, then, an equal liberality toward public schools and patent medicines, with partiality toward neither. In England, in 1879, the stamp tax on nostrums was two-thirds of a million of dollars. In Germany, although the law has undertaken to restrict or prohibit them, they are sold in immense quantities; American nostrums competing sharply with those of the *Vaterland*. In spite of regulations by the French Government, Paris is a centre of trade in the nostrums of the world. Russia is plagued with them, and licenses a part and prohibits the rest. The Swiss Federation has been trying to prohibit the sale or advertisement of medicines of secret composition. Belgium is setting about to prohibit their importation; she will not tolerate humbugs of foreign origin. The United States taxes them. A single proprietor, perhaps not the most extensive, has paid our government $120,000 per annum for stamps to put upon the nostrums of his own production. At retail, then, the people paid three million dollars a year for this man's wares, and his own annual income was not far from one million dollars. This amount equals the average net income of a railroad three hundred and eighty-four miles long, in the United States, in the year for which this comparison was made. There are extensive wholesale dealers in "patent medicines" alone, and the catalogue of a single house has included fifteen hundred kinds of nostrums. No small share of the trade of the fifteen thousand drug stores, and of a considerable number of grocery stores in the United States, consists in the sale of nostrums, and yet a single "patent medicine king" may make as much net profit in a fortunate year as all the retail drug stores in a city like Detroit, with their patient service of filling prescriptions by day and night, and with their paltry commissions on the nostrums included. How much is paid for advertising nostrums, who can tell? Some one has said over ten million of dollars a year. Enough to give over twenty universities of the first class, with free instruction, a better support than Harvard possesses. You have a piece of property to sell, or a legitimate and thriving business to cultivate, and you advertise it liberally in one or two of your local papers, but a man who is putting a pill on the market will fill up a larger space than yours, and his advertisement will be spead out in the newspapers of every city in the country,—his paltry tokens will be displayed along the dead walls of a hundred thoroughfares,—the types may be already setting up translations of his bragadocio in the newspapers of other nations.

"But what is the actual average nature of the nostrums of the civilized world, to take them as they really are—in nothing to extenuate nor set down aught in malice—what is their power upon the body and their influence upon the health of the people at large? We limit our inquiry to such as are distinctively nostrums—that is bearing no practically true statement of their constituents, and we must of course depend upon the results of chemical analysis for our information of the substances that are in them.

"Probably the most extreme illustration of what may be called the tragical side of the nostrum business is to be found in an uncovered view of the operations of the "cures for the opium habit." The writer has analyzed enough of these, and read enough of the feverish correspondence of their victims. In almost all cases the articles consist wholly of morphine, disguised in colored and flavored solution. In a few cases, quinine or cinchonidine, is substituted for a part and at times for all the morphine. The stregth of the solution, for the same patient, changes from time to time, and changes of the tonics have been found. The operator advertises, with reserve, little more than the words OPIUM HABIT, *cure*, and his address. To inquirers, he invites a letter from the opium taker himself. When he gets this he is ready. He sends a highly wrought pamphlet, with a vivid portraiture of the power and pains of the habit, made up from the most morbid literature, of this subject, intensified by narrations of the wildest experience, and toned with the most assuring sympathy. It would be enough to drive a susceptible person into the opium habit just to read it. Those who are but slightly addicted to opium, or invalids just beginning to depend on it, take on the impression that they are hopelessly enslaved. But the promise of cure is certain, and the certificates enough to prove charcoal to be white. The remedy is costly, but it is ordered. It comes in fixed quantity to last exactly thirty days, with most positive instructions to take just the required doses of the mysterious liquid, under penalty of great danger from any variation. The patient, for such he is called, begins. At first he is rejoiced that he can do without his morphine, then suspects that there is morphine in the unknown medicine and demands explanations, and makes complaints. Constant correspondence is insisted on, frankness required, and every doubt is met with decision. So the pathetic farce is protracted; on the one side, art and audacity and cold, merciless persistence, on the other side alarm and hesitation and despairing appeals, until the judgment of friends or the service of an analyst dispels the illusion, and leaves the victim to realize that he is sold to his own habit by the one whom he engaged to defend himself against it. Whether the autocrat of the opium antidote ever uses his control to diminish the supply of the narcotic, and weaken the habit, cannot be positively declared, but such cases have not been found. And for this nostrum vendor, certainly the symbol of the spider and the fly would be too tame a trade-mark, and his own service with chain and ball not too severe a retribution."

BELLEVUE MEDICAL COLLEGE OF MASSACHUSETTS.—The following circular is received from the Office of the Illinois State Board of Health. And while it makes entertaining reading is self explanatory, and admirably illustrates the necessity for the creation of State Boards of Health, with functions such as are conferred on the Illinois Board.

On the 11th of October last, one of the members of the Illinois State Board of Health was applied to by a "Dr." J. B. Thompson, of 125 South Clark street, Chicago, for the purpose of having a diploma verified as the basis for a certificate entitling the said Thompson to practice medicine in the State of Illinois, in accordance with the Medical Practice Act. After examining the "diploma," the member wrote the Secretary of Board concerning the matter, who requested that the document be forwarded to his office. On its receipt it was found to be in the usual style of medical diplomas; purported to be issued by the Bellevue Medical College of Massachusetts (*Collegium Medicum Bellevue. In Civitate Massachusettense*;) and was signed "Rufus King Noyes, M.D., President," May R. Eastman, Secretary," but with no names of faculty; while the seal consisted of an ordinary red paper tab, on which were impressed the words "Bellevue Medical College. Chartered by the Commonwealth of Mass."

The similarity of the name to that of an old-established and reputable institution in New York, excited suspicion, and, pending investigation, a photograph of the diploma was secured before returning it to "Dr." Thompson.

This gentleman on being called upon for evidence of his qualifications as a physician, stated that he was 57 years of age, but had only been engaged in the practice of medicine during the past five years; that his practice has been confined to Boston and vicinity, that he had procured his diploma on the 15th day of September, 1882; that he was a homeopath, and belonged to the "New England Medical Society of Specialists."

In view of all the facts—his age and period of practice, "date of "graduation" and the character of his diploma—he was finally advised, on November 4, that no certificate could be granted him on the credentials presented.

In the meantime, from correspondents in Boston, the Secretary, had learned that Dr. Rufus King Noyes, "President of the Bellevue Medical College," was an anti-vaccinationist of some local notoriety in Lynn, Mass.; that he claimed to be a physician, surgeon and oculist, referring on his professional card, to the Dartmouth Medical School, the Massachusetts Medical Society, and the Boston City Hospital; and that of the Bellevue Medical College, of Massachusetts," received a certificate of incorporation, May 25th, 1880, under the "Public Statutes relating to *Manufacturing* and other Corporations organized under General Laws."

Desirous of learning the *modus operandi* of such a corporation, the Secretary procured the writing of the following letters by a young journalist of this city, and these, with the replies from the College, throw sufficient light on at least one class of "manufacturing corporations."

SPRINGFEILD ILL Oct 24

MR. RUFUS KING NOYES ESQ
BOSTON MASS

DEAR SIR will you pleas Inform me what are the Requirements and feas for Graduation at Your College also how long your corse of lecturs is

Yours Truly,
V B KELLY

p S I have bin redin medesin about a year

To this the following reply was received:

BELLEVUE MEDICAL COLLEGE.
BOSTON, MASS., Oct. 27, 1882.

MR. KELLY:

DEAR SIR: Enclosed please find circular of Bellevue Medical College.

For graduations it is required that you be and feel competant [*sic*] in Diagnosis, Treatment and Doctoral Conduct; that you can relieve human suffering; and that you prepare an essay or a thesis and present to the College.

The circular shows the regular five months course, *but five months does not stand in the way of graduating any competant person.* If you cannot meet the above requirements you can come with us and be prepared in private in Diagnosis, Treatment or any other department of study in which you may be deficient.

The regular fees are as named in the circular. In certain cases when extra attention is given an extra small fee may be charged.

Sincerely,
RUFUS KING NOYES, M.D.

The circular attached to this is as follows:

THIRD YEAR'S ANNOUNCEMENT.

BELLEVUE MEDICAL COLLEGE,

BOSTON, MASS.

Incorporated May 25, 1880.

CIRCULAR.

Bellevue Medical College is chartered by the Commonwealth of Massachusetts. It educates in all branches of Medicine, Surgery and Obstetrics. Its object is to make good and useful doctors. It is to fit persons to be DOCTORESS and human healers. It is a practical school of medicine, having for its aim the RELIEF OF HUMAN SUFFERING. At this College whatever is scientific, reasonable and humane in the art of medicine is taught. At this College persons of both sexes share equal advantages, and receive adequate knowledge of Diagnosis, Treatment and Doctoral Conduct. Diagnosis, treatment and doctoral conduct are made a specialty at this College, because successful practice in medicine depends upon them, and because medical students from other colleges are mostly deficient in them. Every medical sect is to contribute to this College the best it possesses; yet it is not, and will not be itself sectarian. It is striving to make codes, sects, pathies, traditions, superstitions, theories, jealousies and feuds, subordinate to justice, truth and science, liberty, sense and reason. Instead of the inability and unsuccess, sometimes seen in young physicians, arising from confusion, perplexity, and lack of confidence in themselves, the graduates of this College are assured of that self-reliance and success, from the clearness, directness, and simplicity of the instruction received, which will not, even though buffeted by dogmatism and code, put them in the background of their profession, nor make them acknowledge their inferiority by consulting some older physician.

Seeing that the patronage accorded to Allopathy, Homeopathy and Electicism is about equal, and believing that every physician should be able to treat patients by each and every system of practice, this College has selected a Faculty composed of Professors from each of the above named schools. Able and competent Professors and practitioners of medicine are engaged as lecturers and teachers in the various departments of professional study. The advantages which this College offers are superior to others. To economize the student's time, money and mental energy is an advantage of the greatest importance. To give the student the knowledge needed in every day practice, and to tell him or her just what to do and how to do it, are things that are overlooked in other Colleges, as is testified to by students who have come to this College from other Colleges.

[Here follow quotations from Sydenham and Oliver Wendell Holmes!!]

Students have Hospital, Clinical, Dispensary and Library advantages, together with ample opportunity to dissect in the winter term. Students are received at all times, and classified according to their abilities. Private students may begin at any time in any department.

[In the same catholic spirit with which the faculty is selected from professors of "Allopathy, Homeopathy and Electicism," the text-books recommended embrace, in therapeutics, Wood, Bartholow, Ringer, King, (American Dispensatory), Burt, Hering and Allen.]

Instruction begins, for the Winter course, Oct. 16, 1882, and continues five months. Fees, per term, 50 00; Graduation, $25.00.

Address or visit.

C. J. EASTMAN, M.D., DEAN, 18 Dover Street, Boston, Mass.

RUFUS KING NOYES, M.D., PRESIDENT, Lynn, Mass.

On receipt of the above, the following answer was concocted and mailed:

SPRINGFEILD ILLINOIS October 30 1882
DR. RUFUS KING NOYES
BOSTON MASS

MY DEAR DR Your esteamed favor came to hand this morning I can se no reason under your Rules why I Cant get one of your Diplomys I hav ben Reading Medesin for a year and besides that I hav ben tending on sick Purty near all my life so I hav a Purty Good idee About the Business I hav a Good Many friends who I Doctor and they would Ruther have me for a Doctor than any body else for I can Cure them when Other Doctors Cant I Can Diagnose a case every time But as I hav no Diplomy I cant Charge hardly any feas so I nead a Diplomy from a Good Colege but I aint got funds enuff to go Thear I aint got much edication Eather but I dont think a man must go Though Colege to know how tu Doctor I know some Doctors who want to cramm Thear head with Theories and no Practiss and they are so Intolerable that they want Every Man to go to College but they are Rich and I am poor and they want to crowd me out becaus they are Afrade of Me and if I had a Diplomy I could hold my own wit the Best of Them. These Doctors would not bother me If I had a Diplomy of the Bellevue Medical Colege and then say I dont know Nuthing Because I I Dont Beleave in Vacination But I have sen

Enuff of that Business but I will rite a Essay on that Thing and you can see what I think now Doctor I am Poor and if you will give me a Diplomy cheep I will do the Best I can for your Colege I think I hav showde you I am qualified and you can see what I know By the Essay I send you. You can send a Diplomy C. o. d.

Address to Yours Truly,
V. B. KELLY, Box 3,027 Sprinfeild Ill.

P s send rite away.

The following is a verbatim copy of what Mr. Kelly "thinks about vacination," forwarded with the above:

VACINATION.

The Grate increase of Disease in thease Late years Calls for Explanations undoubtedly the Doctors of this Day is to Blame for very much of it But more than anything else in My opinion is the Inseartion into the pure Blood and Vitle fluid of our Inosent offspring of that vile Diseas of the Animals cowpox So grate has the Curse Became that Privelidges of School Edication is Denide in this and Manny other States to Those who wisely Refuse to Submit to this Curse this is just a Peace of the Nonsensickal Medical teachings of the Day when Theory and Imangination Rool Instead of Practical Expearance and wich keaps its students in close Confinement a Big part of three or four years to hear the Nonsense which is thear peddeld out to them consumition Siffles and Skin Disease Runn Wild among the people This calls for a Strong kick on the Part of our noble Proffession which should seak to Build upp the Health and Streanght of the People instedd of Planting the Seeds of Diseas in Them To Prove that Vacination Dont do no good we nead only to say that Thear has Been More Small Pox in this Place in the last year than thear was in the last Nineteen or Twenty year and morn deaths from it I neadnt say no more About a Thing that is so Plane to Evry thinking man or Woman Eather we shoold all Band togathes in all Parts of the Country to Shut off this Cursed Practiss the People Should be tought Better But the Days is Cuming when Enlightenment will take the Place of Ignoranse and Prejudice and when that Time Comes these fannatics who live by Scaring People will have to step aside and Vacination will not be Heard of any more By V B KELLY

Some doubt was entertained, after dispatching the above, lest the matter had been overdone—lest even the faculty of the Massachusetts Bellevue might not think Mr. Kelly "competant:" But these fears were promptly dispelled by the receipt of the following:

BELLEVUE MEDICAL COLLEGE.

MR. KELLY: Boston, Nov. 2. 1882

DEAR SIR—You, as a candidate for graduation, have been *favorably considered* by the Faculty; and your *thesis has been examined by the Professors and found to be acceptable*. In consideration that you cannot attend the college, you are required to purchase two tickets of matriculation. *These tickets will show that you will have been under the instruction of the Bellevue Medical College for two years.* These two years, together with the one year you have studied by yourself, will make as much time spent in the study of medicine as is spent by any other medical student from any other college. We believe you are and will ever be competant in Diagnosis, Treatment and Doctoral conduct. Of course you know every doctor has to continue his studies after he has taken his diploma. *You are correct on the Vaccination question*, and I am confident you will meet with continued success. *Your diploma will be sent C. O. D. one week from the date of this letter.* It will be securely packed in a pasteboard box. Your bill for diploma and two tickets is $150.00. The ticket and diploma go together. The one cannot go without the other. ———President.

The last four lines of the above are written at the top of the sheet and run down to the line "Bellevue Medical College," at the beginning of the letter. This may account for the omission of any name. But the handwriting is identical with that of October 27, signed "Rufus King Noyes, M.D., and the warm approval of Mr. Kelly's position on the vaccination question hardly required his signature to identify Noyes as the writer. He quickly recognized the familiar style and arguments of the anti-vaccinationists of whom he is a leader, and was prompt to welcome such a typical representative of the cause—one who was ready to make "a Strong kick on the Part of our noble Profession against the Inseartion into the Pure blood and Vitle fluid of our Inosent offspring of that Diseas of the Animals cow pox"

Notwithstanding the repeated statement as to the inseparability of the tickets and the diploma, two tickets, with bill, reading as follows, were enclosed in the above letter:

$75.00. BEDLEVUE MEDICAL COLLEGE
OF MASSACHUSETTS.
Boston, June 1, 1882.

Mr. V. B. Kelly has Matriculated for the Course of Lectures for 1882.

CHAS. J. EASTMAN, M. D., *Dean*.

$75.00 BELLEVUE MEDICAL COLLEGE
OF MASSACHUSETTS
Boston, Nov. 1, 1882.

Mr. V. B. Kelly has Matriculated for the Course of Lectures for 1883.

CHAS. J. EASTMAN, M. D., *Dean*.

BELLEVUE MEDICAL COLLEGE,
Boston, Mass., Nov. 2, 1882.

MR. V. B. KELLY, Dr.,
To Bellevue Medical College:

For two Matriculation tickets and Diploma (one hundred and fifty dollars) $150.

Mr. Kelly replied, acknowledging the receipt of the documents as follows:

DR RUFUSS KING NOYES Springfield Ill
Boston Mass Nov 8 1882

MY DEAR DOCTOR

Yours of the 2d Come to hand and Its Contents Noted with grate Pleasure I was glad that my Application for a diplomy had been Acepted But Sorry that you charge so Much it was More than I expecked to Pay and I hav not got all the Money now but I think the Price is not to much Considering I save Bord in Boston &c and if you will send the Diplomy and let it Be in the Express offis Until I can rase the Balance of the money about two weeks All will Be all right you can send the Diploma at the time you sed and I can get it as soon as I can get the funds Collect tions is hard to make just now But I can get the money Before two weaks Please answer rite away and send the diplomy when you sed you would

Yours Truly

Box 3027 V. B. Kelly

Mr. Kelly was notified of the sending of the diploma by the following letters from the President and Dean of the "faculty," and of its arrival in Springfield by the usual notice of the Express Company, which completes the chain of evidence.

Bellevue Medical College,
Boston, Mass., Nov. 15, 1882.

Mr. Kelly, Dear Sir;

Your proposed arrangement is satisfactory. The article was sent by Express per agreement, November 9 C. O. D. Perhaps it would be well for you to call at your Express Office and tell them that you will soon call for your package. It is generally best not to have too much delay about these matters of expressage, especially where they are C. O. D. For the longer a thing lays in an Express office the more time there is for THOUGHT and GOSSIP about it.

Hoping to hear from you presently I am yours sincerely Rufus King Noyes.

Mr. Kelly Dear Sir Boston Nove 16 1882

On the 9th we sent to your address by the American Express Company a sealed package marked C O D. which it will be necessary for you to attend to at once a valuable packages call for considerable attention on the part of the Company. Respectfully Yours,

[Seal] Chas. J. Eastman, M.D. Dean.

Comment on the foregoing would be entirely superfluous, were it not that this travesty on much that goes for Medical Education in the United States is so ludicrous as to mask the satire it contains. It would not be difficult to parallel the tenor of the Third Year's Announcement of the Massachusetts Bellevue with announcements of older institutions not chartered as "manufacturing corporations." Nor is the mode of making out the necessary time "spent in the study of medicine" entirely unfamiliar to many colleges which claim to be in good standing, and which, unfortunately, are accepted as such. How many ignoramuses with not one whit more of education, either literary or medical, than is displayed in the essay on "Vacination," are every year turned loose upon the public, each bearing a "diploma" reciting that some particular Rufus King Noyes and his colleagues have adjudged and decreed the bearer (in the sonorous Latin of the Bellevue sheepskin, price $150. C. O. D..) *hominem egregium studiis optimus dedilum*—a distinguished man devoted to the noblest pursuits—*dignum atque idoneum qui honoretur altissimo dignitatus gradu*—worthy and fit to be honored with the highest mark of distinction. Having sufficiently investigated (as to his scientific and scholarly attainments,)—*satis comperium exploratumque habemus*—as witness the thesis on "Vacination," we, to-wit: Rufus King Noyes, with one consent—*uno animo*—have created and made—*creavimus et fecimus eum Doctorem Medicinæ*—literally "manufactured" him into a doctor!

Miscellany.

Important Change in the Strength of Opium and its Preparations.—The revision of the U.S. Pharmacopœia of 1880, now just issued, makes a great increase in the strength of the officinal opium; and as it does not make a corresponding change in the proportions of the formulas for the preparations, these all become very much stronger, the principal liquid preparations being about one-half stronger.

In the instructions of the Convention to the Committee of Revision, see page xxii., the Convention directs that "in the liquid opium preparations, excepting paregoric, the strength of ten per cent. shall be adopted, if found advisable." This has been found advisable and has been adopted, and had the strength of opium remained as before this change would have increased the strength of the preparations about ten per cent., as stated in the "Table exhibiting differences of strength," found at page 454. But this statement, if regarded alone, is misleading, because this is not the entire difference in strength, nor the greatest difference. The real or entire difference is this one plus the difference in strength of powdered opium used in the formulas; while the difference in strength of powdered opium is very indefinite in both Pharmacopœias. It is only less indefinite in the new one because there it is possible to get an average strength, which average is about 40 per cent. above the minimum strength of the revision of 1870.

This change is a very much needed step in the right direction, and if it can be promptly made known and be generally recognized its advantages will soon be realized. There has always been much confusion and uncertainty in the strength of opium and its preparations, because the strength of the officinal opium was so indefinite, and for a time this confusion may be increased; but if the new Pharmacopœia be followed, the results must be important in the interest of more accurate medication by this very important drug.

The Pharmacopœia of 1870 says that its "opium when dried at 212° until it ceases to lose weight, should yield at least ten per cent. of morphia by the officinal process." This "officinal process" is the Staples process, which, although by no means the best process of assay, does, under careful management, give account of nearly all the morphia. A powdered opium slightly above this ten per cent. standard gives, by the 1870 formulas, to officinal tincture, and deodorized tincture of opium a strength of 4 grains of morphia, equivalent to 5.33 grains of crystallized sulphate of morphia in each fluid ounce, and this has been considered to be the officinal strength of these preparations, and has been adopted in the practice of the writer for many years, the compound solution of opium being made of this same strength.

The present Pharmacopœia of 1880, just issued, says its powdered opium "should contain not less than 12 nor more than 16 per cent. of morphine when assayed by the process given under opium."

This process of assay in the hands of this writer, and probably in the hands of most other pharmacists, does not give an account of all the morphia in opium by from by 1 to 2 per cent. So that the true application of the Pharmacopœia definition in ordinary practice gives an opium which really contains 13 to 17 per cent. of morphia, the average being 15 per cent. But if its preparations be made by its new formulas, a 12 per cent. powder will give them 5.44 grains of morphia in each fluid ounce, while, if a 16 per cent. powder be used, the preparations will contain 7.25 grains, a difference much too great for any accurate therapeutic application. Hence the adoption by the writer of a uniform and definite intermediate proportion of 6 grains in each fluid ounce, equivalent to 7.5 grains of sulphate of morphia; and this is just one-half more than the old standard of 4 grains in each fluid ounce. The new standard gives one grain of morphia in each 80 minims, or one grain of sulphate of morphia in each 64 minims, making 16 minims the equivalent of a quarter of a grain of the sulphate.

This uniform proportion will give very effective and accurate preparations well adapted to that precision of dosage that best guards against over-effects.

If heretofore the full anodyne dose of tincture, deodorized tincture, or compound solution of opium, has been 24 minims, or say 38 drops, representing a quarter of a grain of sulphate of morphia, the corresponding dose of the new preparations will be 16 minims, or say 25 drops.

This is a large and important change of dose, and, although not perhaps very dangerous under ordinary circumstances if unrecognized, yet it would add its hurtful effects to the too common overdosing by opium and its preparations, and headaches, nausea, etc., would be more severe.

It is now, of course, more important than ever that the label of every package of opium and its preparations should give the morphia strength of its contents; and each pharmacist and physician should carefully examine the labels to know just which they are dispensing and prescribing, whether the 1870 or the 1880 preparations. In the use of powdered opium they have long been subjected to variations as great as these without knowing it, but the liquid preparations, which are far more largely used, were rarely over 4 grains to the fluid ounce, and were generally below this. And it is possible, if not very probable, that in common practice they will continue to be of such strengths, despite the authority of the Pharmacopœia, and the labels will not have the strength stated on them.

There are, however, many pharmacists who, with the writer, will strive to uphold the present change of standard, and who, as their old stocks of the former strength give out, will replace them by the new with revised labels.

Of course, a pound bottle of the new preparations will be equal to a pound and a half of the old, and will cost as much, but there will be a saving in the cost of bottles, transportation and storage room, and the country practitioner will carry a better supply in his pocket case. But by far the greatest advantages will be the smaller dose and improved accuracy of the preparations, and therefore the improved medication under their use, whilst no serious accidents need occur if ordinary caution be taken.

In physicians' prescriptions where, for example, deodorized tincture of opium is ordered, the figures "1870" or "1880" should be added, and he should give his dispensing pharmacist the liberty of using whichever preparation he might have in the proper proportion of 1½ to 1 until the change becomes established. That is, if 24 minims of the 1870 should be ordered, the pharmacist should use instead 16 minims of the 1880 if he happens to have the new and not the old strength.

As the old preparations and the new are identical, excepting the morphia strength, it is only necessary to dilute two measures of the new preparations with one measure of menstruum to reduce them to the exact strength of the old preparations.

For diluting the tincture of opium, or the deodorized tincture of opium, diluted alcohol should be used.

For diluting the compound solution of opium alcohol should be used.

It will, of course, be some time before the new strengths get into anything like general use, but it is to be reasonably expected that the careful and thoughtful physicians and pharmacists will at once seek to avail themselves of them, and the sooner the better if with due care and knowledge.

This note is hastily written in order to publish it at the earliest opportunity, the whole object being to give prompt notice that all opium preparations made in strict accordance with the new Pharmacopœia of 1880 will be about one-half stronger than they were formerly, and that this writer will so make them.

Although, by courtesy of the Committee of Revision, the proof sheets of the new revision passed through the writer's hands before the publication of the work, he failed to realize the extent of this change until he came to make the preparations in question by the new formulas, which are now authoritative for strength.—*Squibb's Ephemeris.*

MALARIA IN SKIN DISEASES—A CORRECTION.—Some time since the following paragraph appeared in the *Michigan Medical News*, and has been widely copied in the medical journals of the country:

A century ago, John Hunter divided all skin diseases into three classes, one of which is cured by mercury and the iodides, a second by sulphur, and a third class which the devil himself can't cure. Dr. L. P. Yandell, who quotes Hunter as above, is given credit for a much less complex classification than even this. He attributes all skin eruptions to malaria. Quinine is a specific for malaria; ergo, quinine is the remedy for all skin eruptions. Q.E.D.

I trust that my confréres of the press will do me the kindness and the justice to publish the correction now given, as the matter is not only one of personal interest to the writer, but is of scientific interest to the profession. The subjoined extracts are from a supplement to a report read to the American Dermatological Association, September, 1877. A copy of this report will be gladly sent to any one desiring it:

"From the criticsms which have been made on my views, I find that I have not succeeded in making myself perfectly understood. What I have contended for, and what I have reiterated, is simply this: Malaria is *the chief source* of *acute* skin disease. Scrofula is *the chief source* of *chronic* skin disease. The more inveterate cases of skin disease are often due to the coexistence of these two things. The specific exanthems, of course, are not included here, but I contend that their progress and termination are often largely influenced by the presence of malaria, or struma. *I do not claim* that malaria and struma are the *sole* causes of the dermatoses. Indeed, *many* of the dermatoses may exist *independently* of *malaria* or *struma*, and most frequently some exciting cause is necessary to develop the cutaneous eruption. Among the exciting causes are irritants, injuries, insufficient or improper ingesta, vicissitudes of temperature, alcohol, dentition, menstruation, parturition, lactation, etc. The proofs of the truth of my views are, in the first place, that the diseases of the skin are cured more certainly and more quickly by the antimalarial remedies on the one hand, and by the antistrumous on the other, than can be done by any other line of therapeutics; and in the second place, that careful and painstaking investigation will, in the majority of dermatoses, make apparent the existence of the malaria or the struma, as the case may be.

In conclusion I desire to impress upon the reader that my views *are not confined to the skin diseases*. What produces disease here will produce it in all other organs of the body. What is true of dermatology is equally true of gynecology and ophthalmology and otology, and it is just as true of the diseases of all the other regions of the body.

Subsequent observation has confirmed my belief in the correctness of these views.—Lunsford P. Yandell in *Louisville Medical News*.

SUCCESSFUL MIDWIFERY—BABY INCUBATOR.—The most successful results ever obtained in the Maternite Hospital in Paris (a mortality of only ¼ of one p. c.) have been reached in the new pavillion, of which M. Tarnier says:

Each patient has a separate room, entered from without, so that a nurse can only pass from one to another by going outside into the open air. The furniture is of japanned iron; the floors, walks and ceilings of impermeable concrete. The mattresses and pillows are stuffed with cut chaff, which is burnt after use in every single case. For the McIntosh sheet is substituted one of brown paper, made impermeable by pitch; this is burnt after use. For the washing of the genitals weak solutions of bichloride of mercury are employed as being the best and most powerful germicide. The same enthusiastic accoucheur has invented a sort of incubator in which babies of an age heretofore considered non-viable are placed. The machine consists of two compartments, the lower containing hot water to furnish the heat, and the upper for the reception of the child, where he is enveloped in cotton and under a glass tube. The results are said to be very encouraging.—*Boston Medical and Surgical Journal.*

TEST FOR ALBUMEN IN THE URINE.—Dr. Geo. Johnson, F.R.S., of London, is now using picric acid for the detection of albumen in the urine. The test was suggested to him by his son, Mr. G. Stillingfleet Johnson, who has long labored at chemical research, and believes that the test is free from fallacy. A saturated solution of picric acid has a specific gravity of 1063, and immediately coagulates any trace of albumen which may be present in the urine to which it is added. The delicacy of the test is strikingly demonstrated when slightly albuminous urine is poured on to the surface of nitric acid and the picric acid solution is added on the surface of the urine. An obvious advantage of the test is that the powdered picric acid may be so conveniently and safely carried in the pocket ready for the immediate and efficient examination of any urine suspected of being albuminous. It is only necessary to throw some of the powder into the suspected urine while it is warm, and to agitate slightly, in order to produce an obvious cloudiness if any albumen be present.—*Boston Medical and Surgical Journal.*

SOMETHING WORTH KNOWING.—"Dermatologists are well aware that soaps made from rancid fats or by careless methods act as irritants to the skin, and both set up and maintain diseased conditions of its surface. A pure soap, carefully prepared from vegetable oils, is something worth knowing and having. We can speak from personal experience that Packer's Tar Soap meets these requirements. It is exceedingly smooth and agreeable to the skin, and as it is combined with pine tar, it is valuable as a remedy in cutaneous as well as pleasant for a toilet article. We commend it, without hesitation, as the most satisfactory soap, in both these respects, that we have ever used."—*Medical and Surgical Reporter*, Sept. 23, 1882.

Bibliography.

THE PHARMACOPŒIA OF THE UNITED STATES OF AMERICA.[1]

The new Pharmacopœia of the United States of America, issued by authority of the National Convention of 1880, differs essentially both in extent and in character from its predecessors. It is certain that more labor has been bestowed upon it by the Committee of Revision than has been the case at any previous revision of this or any other pharmacopœia, and not only has the Committee itself been constantly at work upon it during the last two years, but a number of scientific bodies and individual workers have, during the preceding four years, made extensive investigations and furnished important contributions toward an improvement of the previous edition.

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[1] New York: Wm. Wood & Co., Publishers. Sixth Decennial Revision.

The arrangement of articles in the new Pharmacopœia is strictly alphabetical.

The crude drugs, derived from the vegetable or animal kingdom, are carefully defined, in accordance with the present state of our knowledge. The systematic names are accompanied by the names of the authors and the natural orders. The definition of each drug is followed by a description giving the dimensions of the drug, its external characteristics or physical properties, odor, and taste, supplemented, where it seemed necessary, by a description of its appearance under the microscope or by chemical tests. The more common adulterations are pointed out, and the characters given by which they may be distinguished.

In the case of chemicals, the changes in the present edition are still greater. Manufacturing processes have been omitted wherever tests of identity and purity are sufficient to characterize the substance, and where the products are not liable to variation though made by different processes. Working processes are given for all those chemicals, the composition of which is more or less dependent upon the mode of preparation.

All chemicals of a definite composition are accompanied by their chemical formulæ both in the new and in the old notation, together with their atomic weights or equivalents; and, in each case, a minute description has been added, giving the physical characteristics (color, crystalline shape, state of aggregation, resistance to air or light, odor, taste, solubility in water and in alcohol, at 15° C. (59° F.) and at their boiling points, behavior when heated, etc.). These are followed by tests of identity and by tests of purity. In the case of the latter, attention has been paid to all impurities known to occur or liable to occur in consequence of the mode of manufacture, as well as to the usual adulterants. The object of each test is stated in parenthesis, so that there can be no doubt, in any case, regarding the meaning of the test.

Whenever any chemical is capable of being readily assayed, either for its own sake or for its chief constituent, a process has been appended.

More attention has been paid than heretofore to directions for keeping and preserving the crude drugs, chemicals and preparations.

A number of obsolete and unused drugs and preparations have been dropped and replaced by those recent ones which appear to have acquired a permanent foothold among the medical profession.

The new Pharmacopœia constitutes the lawful text-book for the physician and pharmacist for the next ten years, and until the next edition, to be authorized by the National Convention of 1890, shall have made its appearance. It is recognized by various State and United States laws, and its requirements of strength and purity of drugs and chemicals form the basis of criterion for custom-house officers, public analysts, and courts of law. It is manifestly the duty of all concerned to make themselves immediately familiar with the work and faithfully to adhere to its directions.

Diseases of the Rectum and Anus.[1]

This useful work of a little over 300 pages, forms the August Volume for 1882 of the well-known "Library of Standard Medical Authors" issued by this enterprising publishing house.

The object of the author, as stated in the preface, has been "to condense into convenient form, * * * * as great an amount as possible of practical information concerning diseases of the rectum and anus,"—and for his success in attaining this subject he certainly deserves the thanks of the profession. The book is full of just such practical points as the general practitioner is likely to appreciate, beginning with the anatomy and physiology of the parts. The various disorders, congenital and acquired, of this too often neglected region, are treated of in a plain, comprehensive manner, and the closing article on rectal alimentation, is especially practical, concise and brief. The book like the others of this series is well printed on good heavy paper, and attractive in its general make-up.

Pathological Anatomy. — Pathology and Physical Diagnosis.[2]

This work is a well arranged collection of cases, representing the various lesions of the human body, in which changes have taken place during the processes of disease as exhibited post mortem.

These cases elsewhere reported in recent hospital reports, journals and other current medical literature, are here systematically brought together and furnish the text to a series of illustrations produced in colored lithographic plates. Royal folio in size. In mechanical finish these plates are first class.

The whole work will consist of one hundred illustrated pages and one hundred pages of text, issued by the publishers in twenty-five parts, each part containing four plates and four pages of text.

Part one reports and illustrates Diseases of the Cerebro-Spinal Axis and its Membranes.

The work will be a valuable addition to any library.

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[1] Diseses of the Rectum and Anus by Chas. B. Kelsey, M.D., Surgeon to St. Paul's Infirmary for Diseases of the Rectum.; Consulting Surgeon for diseases of the rectum to the Harlem Hospital and Dispensary for Women and Children, etc., etc. New York: William Wood & Co., 56 & 58 La Fayette Place. 1882.

[2] A series of Clinical Reports comprising the principal diseases of the human body. Systematically arranged in one hundred full-page illustrations and one hundred pages text. By J. A. Jeancon, M.D., Author of Atlas of Human Anatomy. Progress Publishing Company. Cincinnati, Ohio.

Clinical Lectures.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

[Reported by T. R. COFFMAN, M.D]

TENOTOMY.

Before the days of Stromeyer such cases as I present you, "Wry-neck" and "Club-foot" were relegated to permanant deformity. Some efforts at correction were made—but they were without system or efficiency, and the results were far from satisfactory. The miserably deformed feet upon which you see persons hobbling along, voice the want of skill which characterized the earlier treatment of such defects. In many cases all appearance of the foot has been lost; a mere bunch of shapeless bones is left, upon the lower surface of which is improvised a sole—knots, corns, and bunyons abound, such irregularities are fruitful in the production of these pests—the gait is not only unsteady but painful.

Wry-necks are seen in the adult in which the muscles have long since ceased to be factors, the whole vertebral column is twisted from the middle dorsal region to the base of the skull.

After Stromeyer demonstrated how to make, and the value of Tenotomy, the profession embraced it at once—it was looked upon as alone sufficient, and adopted in all cases. Operators over valued it; it was made the fashion; we are too much given to this, often enthusiasm assumes the place of reason. It was, however, a great step in the advance—it marked a new era in the surgery of deformities. The celebrated Valentine Mott, after seeing Stromeyer operate, wrote to his countrymen, "It was my happy lot, even at my advanced time of life, to have resided in this capital (Paris) and to have also witnessed the dawning, as well as the meridian splendor of another new and illustrious era in the healing art; I refer to that beautiful and exact science, limitedly denominated *Orthopedic Surgery*.

You will, Gentlemen, nevertheless, find that something more than the knife is needed, and if you should not fully recognize this, disappointment will attend you, and you will be tempted to allow neglect to take the place of its appropriate use. Tenotomy should not be looked upon as alone sufficient but it should be regarded as one of the means, albeit the most important ones in the correction of these abnormalities, it must be associated with other agencies less conspicuous but of absolute necessity.

WRY-NECK. EQUINO VARUS—DOUBLE.

In the two cases before you Wry-neck and double Equino Varus muscular deficiency is prominent, one set of muscles contracted, the opposite relaxed; one strong, the other powerless; one active, the other paralyzed. In surgical pathology which of these conditions is primary, is still a question *sub judice*. Does the contraction of one muscle begin, and by constant tension overcome its opposite, or does the paralyses antedate the contraction? In this case did the peroneal muscles loose their power, and thus resistance being no longer offered the gastrocnemius had the ability to effect the deformity? Sayre believes that the paralysis always precedes. In his excellent work on Orthopedic Surgery, you will find this positive opinion: "I believe that nearly all cases of congenital Talipes are of a paralytic nature." Barwell, in speaking upon this neuro-muscular question, says, "A convulsive or spastic contraction of muscles, although it may in rare and exceptional instances be powerful enough to cause a temporary distortion, cannot be persistent enough to produce any permanent deformity while the opposers remain healthy."

I have thus, as you see, given you the opinion of the two great authorities upon this branch of our science and art, one in this country, the other in Europe.

That obscure affection which we call Infantile Paralysis, doubtless, has much to do with the development and local determination of many of these deformities. Recurring, however, again to the relative position of spastic contractions and paralysis of muscles, singly or in groups, it must be admitted that the question is still obscure, it is next to impossible in many instances to decide it. Those cases which are congenital are shrouded in the obscurity of fœtal life; the acquired malformations are usually so slow in progress that the observer is at a loss to determine whether they depend on too much power at one point or the want of resistance at another. There are deformities which accompany paralysis, but in such, you seldom see the opposing muscles in a state of tonic spasm, the want of strength is present but the opposite is not. Again, cases are seen in which a spastic condition of one set of muscles seems to wear out an opposing group.

The study of hysterical joints—hysterical limbs are not without value in this connection. In Hysterical Wry-neck the muscles are contracted for weeks, it may be for months; the deformity comes on suddenly and departs in the same manner, so also in the Hysterical Knee, the limb is flexed, fixed for a time, but when this yields, no trace of paralysis is left, the patient has absolute and complete control of, and subjects the limb to its normal use. In all the cases of nervous contraction which I have seen there was no impairment of the temporarily overcome muscles, this would to some extent tend to confirm the position taken by the great authors to which I have referred.

The question we have been discussing has an important relationship to the treatment, but we desire you to confine your study at this hour to Tenotomy, when it is essential and when it may be dispensed with. As heretofore said, too much was expected from it, hence disappointment followed, and followed frequently. In these malformations it is not alone the shortened muscles, the bones, except in the very young, have lost shape they no longer correspond to a normal joint, the planes and surfaces have become changed, the ligaments altered, all these must be recognized in efforts for restoration.

Take the case before us, W ry-neck in a young man. The offending agency here would seem to be the Sterno-cleido-mastoid, but in reality the cervical vertebra and intervertebral cartilages are all pressed out of symmetry, thinned on one side and thickened on the opposite. In the very beginning, during the first months of the child's life Tenotomy aided by slight retentative apparatus might have remedied the whole trouble.

To illustrate this subject still further let us examine this case of double Talipes, Equino varus. The boy has been before you frequently. He was eleven years old when he sought relief in this house. At that time both feet were inverted, the soles looking towards each other, he walked upon the sides of his feet, the Os calcis, the Astragalus, the External malleolus forming the plantar surface. Now, in this case more than the muscles were at fault, true, the Peroneal muscles were elongated and paralyzed, the Tendo Achillis shortened and locked, but the bones had been so altered in form, that had they been removed they would hardly have been recognized as belonging to the ankle. When your books tell you, that the muscles are altered in their associations and are deficient in power, but that the bones are comparatively unchanged, they must doubtless refer to the very young, to the infantile Club-foot, to the Wry-neck of the babe, and when an author tells you that persons beyond middle life have been relieved by Tenotomy alone, that the bones still retain their forms, he does not certainly refer to those extreme cases of Talipes that we meet on the street, where all resemblance to a foot has been lost. The bones in such cases have not only lost their normal forms, but they are in malrelationship to each other, so altered in every respect that resection of one at least, has often been found necessary.

These bones must be reformed, replaced before the patient can walk without disability, normal form must precede normal function.

Treatment.—The difficulties in the treatment increase with the years of the patient; the younger the bones the more easily they are impressed and this is true of every factor entering into the deformity.

1. The departure from the normal form daily increases until adult life, until the parts cease to grow.
2. The bones grow more firm and dense.
3. The muscles become more unyielding.

The argument deduced from this you will readily infer, the sooner the treatment is commenced the better. The educated hand of the mother supplemented by a few strips of moleskin plaster might correct a case, which if allowed to pass into the third or fourth year will require much labor and a strong retentative apparatus. In infancy these cases can be remedied without even the improvised gum-elastic muscles of Barwell. Daily manipulations stretching the shortened tendons, fascia and ligaments, and the retentative power of adhesive plaster will in most, if not all cases, accomplish the result.

But what of cases that have passed beyond infancy, and cases that have reached boyhood or maturity. Mr. Barwell errs when he asserts that Tenotomy is not necessary in any case of Club-foot as do the followers of Stromeyer in insisting on its sufficiency in all forms. Barwell, too, teaches that it is harmful to divide a tendon, that it does not unite; this is directly counter to the experience of the profession; tendons not only unite but like broken bones they as strong in the restored state as they were before the injury.

In what kind of cases is Tenotomy then not necessary? I would say in the very young, and in those cases especially of club-foot where the parts have become so fixed, where the Tendo achilles has become so locked that under pressure the parts yield but little, where it is impossible to put that tendon upon a stretch to make it taut; its division under such circumstances will do no good whatever. In this boy I found that when I divided the tendon on the right, I could not force the foot into its normal position any more than I could the left which I had allowed to remain uncut. The Tenotomy which I made was useless. The muscles in that case had almost ceased to be factors in the deformity, they were not contracting, they were like ligaments, passive, holding the parts in their acquired positions.

In this Wry-neck patient the Sterno-cleido-mastoid is in a state of activity; it is not bound and immovable as the the tendons to which I have just referred, it is still an active agency in intensifying the deformity, and I doubt whether Mr. Barwell could arrange an apparatus which would overcome it. I now as you see divide it, but with all the force I can put upon the head, it is impossible to restore its natural position. The cervical vertebræ must be pressed into shape; not only this but the ligaments that pass from one vertebræ to another must be lengthened as well as the muscles resting upon the lateral aspect of the cervical spine.

How can this be done? Not by an apparatus —by a head gear—but by a daily manipulation— by putting and holding for a time all the parts upon a stretch. By this force you also relieve the suffering vertebræ and cartilages; by pressure you reduce the parts that are thickened, and at the same time relieve and stimulate the growth of those in an opposite condition. The Sterno-cleido-mastoid will soon be repaired, but in this elongated position you are relieved of one of the principal resisting agents, thus rendering manipulation efficient.

What should be the rule of guidance in making a Tenotomy, and if most, if not all cases, can be remedied without it, why make it at all. Whenever by extension the tendon can be made taut, then Tenotomy will be advisable, for it facilitates greatly the restoration of the parts to normal form. When, however, the parts, the malformed bones, are so blended, so firmly locked, made so immovable by the shortened ligaments, by contracted fascia, and by hard and immovable tendons, muscles changed in structure. it will be useless. Sayre applies the term "contractured" to muscles thus situated. You will remember that when three years ago I cut the Tendo Achilles on one side, I could make no more impression than upon the opposite limb, on which the tendon was still intact. In the progress of cure, the boy now walks fairly well—is improving every day. I have not been able to discover any advantage which the Tenotomy gave; the rectification on the uncutside was as easily made as upon the other in which the tendon was divided.

Today, in the Wry-neck case, when I attempt to overcome the deformity the muscles are brought into view. The Sterno-cleido mastoid which in a quiescent state is hardly perceptible, when the force is applied is stretched across the neck like a tense cord—a cord at some points a half inch in diameter. This case, I believe, could be corrected by manipulation alone, but the division of the muscle which is the principal factor will greatly hasten the cure.

In Wry-neck there is almost always somewhat of a rotation accompanying the inclination of the head to one side. Other muscles, especially the Trapezius contribute to this element of deformity; for this, however, Tenotomy is not required, educated manipulation must correct it, the ligaments stretched, and the deep seated as well as the superficial must be elongated.

I have not found of "universal application" Sayre's rule for Tenotomy. He places the subject under an anæsthetic, and then presses upon the tense tendon; if reflex contractions occur he deems the operation necessary.

It is difficult to apply Mr. Barwell's elastic muscles to Wryneck, and all appliances yet invented to support the head and overcome the deformity have proved unsatisfactory, hence the patient must be ever vigilant; he should daily if not hourly give himself to the work of rectification. In the young this, of course, must be relegated to an attendant.

I will not say that no advantage has been derived from the various instruments, which have been devised to correct Torticollis, but my experience shows that more can be done with a skilled hand re-inforced by heavy mole-skin plaster. Force, well applied, gives daily a slight advantage, it may be almost imperceptible but still it is an advance; the adhesive plaster holds the ground thus obtained.

The work is great, Gentlemen, but the end attained is worth it—the rescue of a person from a deformity which is an ever-present unhappiness.

Tenotomy upon the muscles of the neck is a delicate operation, fatal hemorrhage has followed it, there is a possibility of wounding one of the great vessels.

Most surgeons divide the sterno-cleido mastoid at one or both of its inferior attachments. It may, however, be cut above, near its origin or somewhere about the middle of its course. I prefer to insert the Tenotome beneath and cut towards the skin. I like best for this region a knife with a round point and double cutting edges.

The patient should rest for a few days and then, manipulations may begin. The idea that the tendon unites by a delicate plasma, which excites a controling influence upon the divisions, is a delusion and may be a snare. The clinical experience of the world is against Mr. Barwell on this point. The divisions unite, unite firmly, by means of a plastic deposit, which finally assumes the form and function of a tendon.

HYSTERICAL WRY-NECK.

This affection is, of course, akin to hysterical joints, it comes on suddenly and departs in the same manner. *Festina lente*, be careful lest in your anxiety to use your scalpel, you make a Tenotomy in such a case. A brief personal experience may not be without utility. Some years ago, when much younger in the profession, I was called to see a young lady who had been seized some weeks before with Torticollis. I believed the knife necessary and proposed it. Immediately thereafter, I was not idle in studying the best plan for its use, when and how to insert it, what direction and to what extent the incision or incisions should be made; in addition, I was devising an apparatus, a head-gear, to hold the head after it should be relieved. Before, however, I had commenced hostilities an older and much wiser surgeon was consulted for an opinion. I expected him to tell me to proceed, that my proposal was as necessary as it was scientific. He at once informed me of the true nature of the case, that, not operative surgery, but tact, finesse, supplemented with a few doses of asafœtida at bed-time would correct the infirmity. Not long after this upon visiting my patient one morning I found the head erect, no trace of the deformity was left. The mother informed me that my "last portion of medicine had effected a wonderful change, had in fact cured the case, that her daughter had retired deformed, but in the morning she got up as perfect as God had made her."

Was it in the power of human nature to correct the mother's impression—one so complimentary? Not that variety I fear which is usually found in the M.D. It is difficult to resist appropriating such "flattering unction," praise is more grateful to the Doctor than to anyone else, probably because of its scarcity; but jesting aside, we should explain the real character of the affection, that when the obstructions had been removed the nervous system righted itself.

An operation in these transient neuro-muscular cases would be a grievous mistake—although in some instances the joints have been flexed for months, and in one case that came under my observation. for years. That patient was carried over the land on a stretcher with the leg flexed on the thigh, and the thigh on the abdomen—yet under an anæsthetic the joints assumed perfect function, and doubtless during sleep they may have been moved, but upon that I failed to gain any positive information. A few weeks ago, I was consulted for a case of Club-foot, pure Equinus, in a young lady. The foot was constantly extended, but not inverted as in most cases of Talipes. By the way, I may say in real Talipes you seldom if ever see any unmixed case —Varus or Valgus is associated with Equinus or the Calcanean form. I anæsthetized that young lady and her friends were surprised to see the foot restore itself—the assistance even of the hand was not necessary to effect resumption. When the patient awoke—the deformity reappeared. Here again tact was only necessary to overcome the Pseudo-talipes.

Mr. Adams of Great Britain gives the conclusion of the whole matter when he says that the treatment of these neuro muscular defects consist of a "a judicious combination of operative, mechanical and physiological means".

Correction of form is not alone necessary—the muscles must be made to grow—to become stronger, blood must be invited into them by massage, friction, the douche, electricity, etc. The importance of this advice will be intensified by the inspection, above the ankle of the limb of a Talipes subject, two or three years old. You will find the surface cold—the muscles small and in their massive part ill shapen. The line from the knee to the ankle is unbroken by the bulge forming the calf of the leg. So too the muscles of the neck will require stimulation, whilst we overcome offending ones, new life must be given to those paralysed—whether that paralysis be primary or secondary.

GOOD SAMARITAN HOSPITAL.
SERVICE OF PROF. JAS. T. WHITTAKER.

[Reported by Dr. W. H. Wenning.]

LOCOMOTOR ATAXIA.

Gentlemen :—This patient comes to us to know what is the matter with him; and in order to remember all the points in his case he has taken the precaution to write them down, and we will hear what he has to read:

"I drank very freely up to about two years ago. About one year ago I felt a feeling of deadness in the lower limbs upon walking. Besides this, I felt a peculiar pain in different parts of the body; these pains were situated over a muscle or nerve and were scattered in spots of about the size of a half dollar, so that I could cover them well with the palm of my hands. When I took off my shirt I had a feeling as if the skin was coming off, or as if there was a rash over the whole body. I was unable to hold water, and did not know that it had passed until I felt that my clothes were wet. This was about six months ago. My head feels at times as if the skin was drawn tightly over the brow. My hands feel perfectly numb, and when I place them above my head in sleeping, I have a sensation of losing them."

Gentlemen: This man has presented us with the subjective signs—a typical history of a certain form of nervous disease. Will you venture on a diagnosis? Some one answers correctly, I think, locomotor ataxia. The numbness in the limbs, pains lancinating in character, and localized in spots over the lower extremities, hyperæsthesia of the skin with paræsthesia, incontinence of urine, and loss of the sense of localization. These are the symptoms which he has now mentioned to us, and they excite a suspicion of incipient sclerosis of the cord. But he gives no history of affection of the eyes. These symptoms come on ten and even fifteen years before the true atactic phenomena appear. This patient says he has lost his sight when a child by a kick from a horse. Last fall he had severe pain in the eye, for which he consulted an oculist, who told him that it was due to a broken bloodvessel. In the left eye he has never had any difficulty of vision. But many cases of locomotor ataxia show no affection of the eyes.

Oculists tell us that they can frequently detect an advancing trouble due to a degeneration of the optic nerve many years before the development of other symptoms as a forerunner of this disease, even when there is as yet no disturbance of the extrinsic muscles.

Another frequent symptom on the part of the eyes is color-blindness, not, however, present in this patient; hence we will not discuss it.

The symptom next in order is the disturbance of sensation so picturesquely described by the patient himself. There is more frequently a pain in the trunk than the extremities, and a very severe form of neuralgia it is in the nerves of the pelvis. These pains are characteristic from their intensity and their brevity of duration. Some persons are so well prepared for them that they carry with them the means of relief. They may be walking the streets when they are suddenly attacked by this pain; they enter a house, ask for some hot water, and saturate cloths with it, which they apply to the affected part. The great German poet, Henrich Heine, was a victim to this disease, and wrote some of his best verses when prostrate in his bed; moreover, he put into verse the account of his pains.

The numbness of sensation in the lower extremities are more frequent than in the upper, because the disease begins oftenest in the lumbar region of the cord.

Patients with this disease have various sensations, sometimes as if the feet were dipped in tar or as if they were walking on eggs, or sometimes simply as if they were asleep, etc.

Our patient just informs me that he has, and has had for years, no desire for sexual intercourse, but nevertheless is frequently troubled with lascivious dreams. This is also characteristic of this disease, though at first there is often increased desire for sexual indulgence; but later on when a destruction of the nerve cells has taken place, there results entire impotence. Paresis of the bladder is evident from his incontinence of urine. We will now test his powers of locomotion as well as sensation. We ask him to walk across the floor; you see he walks pretty well, even with his eyes shut, swaying then but very little. He says he has no trouble in walking, except at night, when he can not help his defective muscular sense with his sight. We ask him to stand on one leg with his eyes open. This he can not well do, still less can he do it when they are shut. You may put it down as a rule that *when a man can stand on one leg with his eyes either open or shut, there is no serious disease of the spinal cord.* And in making this statement to you, I am only repeating a statement once made to me in this city by Brown-Séquard. Our patient can pick up a pin and button his coat very well, and he can pretty closely touch, with his eyes shut, the tip of his ear, the middle of the eye brow, in short, the sense of localization is not grossly impaired.

I will now test him for another most important symptom, and that is the patellar tendon reflex. You notice that when I strike the patellar tendon there is no response whatever. In the beginning of the disease it is at its height, but as the disease progresses it is lost. Another more valuable symptom is ankle clonus, which is also absent here, as you see. It would be hard for a man to feign the absence of the tendon reflex.

In this case the atactic symptoms are as yet not well marked; the symptoms are forerunners as yet, and the only signs belonging to the disease proper are the incontinence of the bladder and absence of tendon reflex. Locomotor ataxia is the name commonly given to this affection, but it is not a good one as demonstrated in this instance; for, firstly, locomotion is not affected, and, secondly, there are as yet no atactic symptoms. A better name is posterior spinal sclerosis. Todd located the disease in a part of the spinal column, as he saw no defect of motion in the muscles themselves, but a lack of coordination in several muscles—a lack of consentaneous action of the number of muscles required to act together to execute a given motion. The nerve fibres that conduct the consentaneous action are affected with disease.

Sclerosis means an induration resulting from a hypertrophy — hyperplasia— of the neurolgia; but whatever undergoes enlargement, so far as connective tissue is concerned, subsequently contracts, and so we have here a destruction of the nerve cells and tubes. This sclerosis is is in this disease funicular—from funis—a cord, that is, it extends from top to bottom, and is not disseminated or *en plaques*, as in the form of disease we had before us last week, in the case of the multiple sclerosis. Charcot has enabled us to locate more exactly the seat of the sclerosis in this disease. It is not the whole of the posterior columns of the cord which is affected, but the anterior part of it, that known from its proximity to the posterior roots as the posterior root zone. The tract of the posterior column, the socalled column of Goll, reaching back to the posterior median fissure need not be affected at all. Ordinarily it is, by extension of the disease, as is also, at times, the antero-lateral column; but the peculiar symptoms of tabes depend simply upon the implication of the posterior root zone. For sometimes the columns of Goll are alone affected, as in cases of Pott's disease, and no ataxia shows itself or other sign of this affection.

The cause of the disease is often obscure. Sometimes there is a history of syphilis. In this case history of specific disease is, uncertain. Vulpian claims that seventeen out of twenty cases are due to syphilis

A curious class of cases are known by having gastric crises, symptoms of indigestion, so that you would be inclined at first simply to regard the case as one of gastric catarrh. In fact, when atrophic changes have set in there is no limit to the symptoms. Three months ago I saw a case of locomotor ataxia with an eczematous eruption from head to foot, and cases of joint affection are, as you know, not uncommon.

The lack of coordination is ordinarily so marked that you can tell an atactic person when walking on the street. Instead of putting down his feet gradually from heel to toe he throws them out with a jerk, and lets a perceptible interval ensue between the fall of the heel and sole. He must also widen his base so that he takes on a straddling gait. All these symptoms are not as yet present in this patient, but as the disease is essentially progressive, we may predict them for the future. From what we have said you may infer that the prognosis, as far as cure is concerned, is not favorable; but the disease may be kept in check for years.

Some one has said the patient must go down stairs; he may stop for awhile on one, or go up a step or two, but in the long run he must descend.

Treatment in this case will consist of iodide of potassium thirty grains, three times a day; faradization of muscles of disturbed sensation, by which bad cases may be held in check sometimes for six to twelve months; and for his incontinence of urine, the only marked symptom as yet, we shall give him atropine, which is a sovereign remedy for this affection. These are the three things to be used, and we hope that thereby, if we may not keep the disease in check, we may at least save him suffering.

Only one caution I may add in this case. It would not be safe to stake a reputation upon the diagnosis until the advent of atactic signs. For a chronic alcoholism might give us all the paræsthesia as well as the incontinence of urine, every thing which our patient shows except the loss of tendon reflex. But time, which declares all things, will soon unfold this case.

CINCINNATI HOSPITAL.

SURGICAL CLINIC OF DR. E. W. WALKER.

DR. LOUIS SCHWAB, Interne.

Reported by Charles E. Caldwell, Student of Medicine.

Gentlemen:—The first case that I bring before you to-day is this infant. It was born in this house six weeks ago. Three or four weeks ago there appeared upon it the eruption which you see present. From the character of this eruption, the manner of its distribution, and the length of time which intervened from the birth of the child to the appearance of the eruption, you will readily conclude that this child has hereditary or congenital syphilis. The eruption is of the pustulo-squamous variety. It was pustular. You see that it covers the face and neck, appearing about the ears, and around the eyes assuming the appearance of rupia, this appearance being due to the deposit of pus in layers. You will notice in the mouth the characteristic mucous patches. About the palms of the hand, and the soles of the feet, is a scaliness and cracking of the skin; especially is the skin cracked between the fingers and toes. This is the characteristic syphilitic palmar and plantar psoriasis. The nostrils are pinched and close up, a very frequent occurrence in infants born with syphilis. If we could see the lungs of this child at the present moment, we would undoubtedly find an interstitial pneumonitis existing. This is a condition which you will find almost invariably in these cases of congenital syphilis, and is the most frequent cause of their death. The mother of this child has been examined for evidence of constitutional syphilis, but the examination has proved negative in its results. And I may say here, gentlemen, that it is generally conceded, that a man having syphilis in its first stages or in the stage of eruption, may procreate offspring which may or may not be syphilitic; but if the child be syphilitic, the mother need not be of necessity, though, of course, she may become infected. But the mother, it is thought, may procure an immunity from future syphilization even though she do not show in herself the evidence of constitutional taint; and it is supposed that she acquires this immunity by absorption through the placenta of a certain amount of syphilitic virus. If the woman herself be syphilitic, she usually aborts in the early months of pregnancy; but if the child be carried to full term it is generally born dead, or dies a few weeks after birth.

As to the prognosis in this case it is very bad; the child in all probability will succumb to the complication on the part of the lungs. If we should examine these lungs after death, we should find them small and contracted; the inter-alveolar connective tissue very much increased in thickness; there would be an atelectasis of the alveoli, this is to say a collapse of the air cells, their walls being in juxtaposition. The lungs would be in a carnified state very similar to the lungs of a child that is born dead—lungs that have never been inflated.

As regards treatment, fumigation would be advisable.

The officinal hydrargyrum ointment would be contra-indicated. The low vitality of the child and the delicate skin common to infancy would be conditions favorable to the development of a mercurial acne which might equal the present eruption in severity. In this case an ointment containing grs. x of the oleate of mercury to the ℥ of vaseline would be preferable. I shall direct that this child receive inunctions of this ointment, and with good tonic treatment we shall have done all that it is possible to do for this case.

The next case you will remember as having already been before you. You see, in the square head, the depression in the line of the sutures, the prominent costo-chondrial articulations, the pot-belly, and the naturally curved limb, the characteristic appearance of a rachitic child.

She comes before us now for an injury sustained by falling out of bed last night, and the rachitic history of the child is of the more interest as bearing upon the nature of the present condition. You will observe the great deformity existing in the right thigh. This is in marked contrast with the left, although it, as we have seen has more than its normal curve. A common form in childhood is the separation of the shaft from the epiphysis. But the deformity here is in the middle of the bone. On palpation we do not get crepitus, but we plainly feel the fragments underneath the skin. There is a fracture without doubt at this point, the fragments have sprung, but the continuity of the bone is not interrupted. What condition have we then? Why, what we should naturally expect a "green-stick" fracture. The animal matter so great in proportion to the calcareous matter in bones, in childhood, is owing to the defective deposition of lime salts in rachitis, greatly in excess here. The result is that we have a splintering of the bone without solution of continuity. It may be likened to the splintering of a green stick when you bend it across your knee, contrasted with the abrupt cleavage of a dry stick from which all the sap is absorbed.

It will be necessary to reduce this deformity as soon as possible, for when the callus is thrown around the bone it will be rendered permanent. This reduction in a child may be accomplished effectually by simple extension. But I think it will be well to apply a plaster dressing here, the object being to straighten the bones without separating the fragments, thus avoiding the liability to convert this into a complete fracture. The child has some fever and is slightly delirous, and I think it best to postpone any interference until a more favorable season.

I have now to show you a case suffering from an affection which is at present so prevalent in the house as to have become familiar to you all. This man has a phlegmonous erysipelas. It has involved a large extent of surface on the right leg, and we call it phlegmonous because it has involved not only the cutis, but the subcutaneous cellular tissue. You will hear erysipelas spoken of as traumatic, and idiopathic.

We speak of a disease as occurring idiopathically when it occurs without a known cause. To call a disease idiopathic is to confess an ignorance of the cause upon which it depends. This is a case of traumatic erysipelas. The man comes to us, (he came into the house with erysipelas) with the history of injury to the leg, followed by a chill, fever and subsequent inflammation of the leg. I ask him to put out his tongue or to raise his hand, and you see that they tremble. The man is in a bad condition due undoubtedly to the irregularity of his habits before the receipt of the injury. He has been a hard drinker, and by over-indulgence has so reduced his system that it has become a favorable nidus for the development of the micro-organism which is supposed to be the cause of this disease. Erysipelas is without doubt a general disease with a local expression. Take a case of facial erysipelas which often occurs without any appreciable abrasion of the surface. It is ushered in with a chill and fever which is followed by the local expression of the disease. Erysipelas of the face may exist as a slight blush, when it is known as the erythematous form, or the whole face and especially the eyelids, owing to their lax connective tissue, may become puffed up and infiltrated, it is then the œdematous form. The œdema being due to the effusion of serum through the walls of the vessels. In this case not only the true skin but the subcutaneous areolar tissue has become involved, and if this condition is allowed to go on unchecked, it may dissect up the periosteum with resulting necrosis of the bone; it may cause the death of the superjacent structures. This condition of gangrene following upon a severe erysipelas has been termed "Hospital Gangrene". Some authors claim that erysipelas in not contagious, but clinical experience will not bear out this statement. It has been frequently noticed that a physician who has been in attendance upon cases of erysipelas, and has afterward been called upon to attend a parturient woman, has had a puerperal fever attack his patient which could only be attributable to a contagion which the physician must have conveyed to the patient. Put it down as a rule not to attend parturient women immediately after having attended a case of erysipelas, any more than you would just after having a post-mortem. Another evidence of its contagious properties, is that a case having been brought into a ward with the disease, the patients in the adjoining beds are attacked in succession, beginning with the beds in nearest proximity to the patient originally affected. A damp, cold and heavy atmosphere seems to favor the development of the disease, hence it is that at this time of the year, November, and in March, the disease is so prevalent. Some authorities claim that they can prognosticate an erysipelatous attack before the occurrence of chill or febrile movement, by the occurrence of tenderness of the lympathic glands. This statement would stand a better chance of verification in private practice for the reason that patients would be more likely to complain of such a symptom, while here either we do not see them soon enough, or, accustomed to slight ailments they do not mention the fact. In many cases you will be unable to tell whether the attack will assume an erythematous, or œdematous or phlegmonous type. Certain it is that the severity of the attack is by no means to be indicated by the severity of the chill or the height of temperature at its commencement.

The treatment in this case will be the administration of tonics to improve the state of the general health. The white corpuscles in the blood having undergone a rapid increase, while the red corpuscles have suffered a corresponding destruction.

Locally we shall make a few incisions to relieve the great tension of the parts, and to prevent a dissecting up of the periosteum as a result of the phlegmonous inflammation. We now insert this drainage tube, and we shall practice through drainage. You may say that by making this cut I shall give a new point of attack for the disease. This is of rare occurrence.

We now place over the wound a bandage wet with a lead and opium solution and trust that the case will soon show an improvement. Many specifics for erysipelas have been recommended, but I should advise you not to place too much reliance upon them. The expectant treatment is the best; careful attention to local indications, and the support of the patient's health by tonics.

Leyden on Diabetic Phthisis.—Dr. Leyden *Zeit. für Klin. Med.*, Band iv. sec. 298) draws attention to the unfrequency of miliary tuberculosis, especially generalized tuberculosis, in diabetic phthisis, and to the small number of giant cells, and the extensive obliterative endarteritis which are present.—*London Medical Record.*

GOOD SAMARITAN HOSPITAL.

CLINIC OF PROF. F. FORCHHEIMER.

[Reported by Dr. Hirons.]

Case I. This child is thirteen months old and has been sick six weeks. The first thing noticed was a convulsion, besides that nothing, except that the child was very quiet. Two days later, the mother says, it had an attack of pneumonia; it had no cough, sweat but little, and suffered with dyspnœa; it was sick one week.

When this trouble began the child, thirteen months old, was just beginning to walk. As you have heard the mother state, after the convulsion it was lame all over and very quiet, that is to say, it was paralyzed, the paralysis involving the muscles of both extremities and trunk. The child being able to move only the fingers. It is now a little better, as you see, it moves both arms and also holds up its head.

This history is almost characteristic. The child was put to bed in perfect health, it has a spasm—perhaps not—has fever, and next morning when put upon its feet it cannot walk or stand. This case is of unusual intensity, affecting not only both upper and lower extremities, but also the muscles of the trunk, so that it could not hold up its head.

You will find that this child escaped by a hair's breadth from being a case where the child goes to bed well and is found dead next morning.

Examining first the head, the fontanelle is wide open, the hair is worn off the back part of the head, showing that it rubs its head upon the pillow. It has eight teeth while it ought to have ten. It has always had good health, regular bowels, no sweating about the head, and has very good appetite. Just a slight tendency to rickets, then, exists as is shown by the thorax. Its arms have a natural temperature. The legs dangle about freely whenever the child is moved. They give no support and when the shoes and stockings are removed they are found to be cold and of a peculiar waxy color. If the room was cooler they would appear cyanotic. The feet are slightly swollen and drop by their own weight, there is also a tendency to talipes equinus. If this condition continues there will be true equinus developed. When I pinch the limb the child cries violently, showing that it gives pain. Both limbs have about the same degree of sensation.

Examining further into the history we find that there has been no change in the sphincters, no involuntary passages. It is hardly necessary to inquire into the family history. The symptoms here shown are too characteristic to require any differentiation. This a case of infantile paralysis, spinal paralysis, polio-myelitis, anterior acute. This is the best name, because the affection is an acute inflammation of the spinal cord. Why do I say the child made a narrow escape? Because the muscles of the trunk are affected, indicating that the inflammation extends very high up in the cord, What is the prognosis? It will regain the use of its arms and probably its back; of the lower extremities it is doubtful. We can say that a trace will always remain, as a lack of growth, a lack of development, or a lack of power.

The treatment consists of electricity, both the constant and interrupted currents; the former to keep up nutrition, the latter the action or contractility of the muscles. Massage, for the same purpose, is employed. Thus you will succeed in curing, or at least in improving, most cases.

The diagnosis is the principal point. You will base this upon the suddenness of invasion, which is like a flash of lightning in a clear sky. The child may be sick, with fever, for a few days, followed by paralysis, which may be for a time unnoticed. These cases are mistaken for Potts' disease, hip-joint disease and various other diseases. The mistake is made because you are not looking for or expecting such cases. But remember these vasomotoric symptoms with the sudden invasion and no mistake will be made.

Apply the battery regularly every day. The constant current one day and the interrupted the next day. It makes little difference where the poles be placed, that is, whether the positive or negative pole be placed above.

CASE II. Here is a child that has been sick for four weeks. In the beginning of the attack everything it swallowed it threw up. Following this it had a profuse diarrhœa. It became emaciated, cold and of a cyanotic hue and wanted to lie quiet all the time, seldom crying. For the last two or three days it has had a cough, with no expectoration, because it is too young. Its passages were very green, a great many in a day, very large and thin. The child had pain before the discharge. It vomited only before the appearance of the diarrhœa. This child then had dyspepsia, afterwards catarrh of the small intestines. The child then was blue, cold, and had red eyes. This cold, cyanotic condition, with injection of the conjunctiva, meant collapse. All of these symptoms were characteristic and they have all passed by.

Now, the child is brought to us with a cough. You see here a child, pale, eyes sunken, skin transparent, fontanelle sunken.

You can see immediately that the cough is of no great importance. Two things are at once excluded, pneumonia is not present, neither is capillary bronchitis. These you exclude by the manner in which it breathes.

You also see that it is much emaciated. Here is a sign of rapid emaciation, of rapid disappearance of fat, viz., wrinkling of the skin of the arms, as takes place after cholera infantum.

Listen to that cry? It is not a cry, but a whining or moaning; the child is too weak to cry. As I examine the chest sub-mucous rales only can be heard. This child is suffering from bronchitis. The skin is unusually dry, and what we next want to examine is this scaliness of the skin. It sometimes follows one of these attacks but to the extent we have it here is rare.

The child is covered with scales which, under the microscope, we would find to be simply old epithelial cells. There is a condition, ichthyosis, which produces a scaliness. This is not ichthyosis, because in it there is a peculiar drawing of the skin and the formation of angular plates not present here.

The treatment in this case involves first, and of greatest importance, the regulation of the diet. We will disregard entirely the bronchial catarrh.

Although the mother states that the child's passages are all right, we ascertain, first, that the child has four or five passages daily, that they are greenish, but not so thin nor large as they were two weeks ago.

It nurses three or four times daily and all night. It does this because it sleeps with the mother. This should never be. It should have the breast every four hours during the day and *not at all at night*. A child the age of this, or eight months old, should be weaned gradually, and it should be commenced by allowing the child to sleep by itself, without anything during this time.

In addition to this what medicine should be given?

Because of the dyspepsia and the consequent diarrhœa we will give something to aid digestion:

℞ Pepsini 0.21
Acidi Hydrochlor dil. gtt. iv.
Aquæ, 60.00
M. S. 5.00 t.i.d.

CASE III. This infant is just two weeks old. Without asking any questions we examine it, take off the diaper. We find that the child has had a stool, which is to us very instructive. First we notice that it is of a greenish color and contains some mucus. Next we notice that it contains a large number of fragments or flakes which are large and coarse. Thus showing us that the child has been fed on cow's milk. The greenish color of the stool with the mucus indicate catarrh of small intestines and perhaps dyspepsia. Next we notice that it breathes through its mouth, a thing it should not do. This is caused by an incipient coryza, not yet causing an abundant secretion. Upon examining the mouth we find upon the tongue a large white spot through which we fail to find any papillæ. There is another on the soft palate. This is stomatitis mucosa. In addition to this it has dyspepsia caused by improper diet, this diet and uncleanliness causing stomatitis.

What is the treatment? Remove the cause and you remove the disease. It is to take nothing but the breast and this only during the day. Or one part cow's milk to three parts water, neither skimming or boiling the milk, with some lime water. Cleanliness with the bottle is essential. Wash the mouth with a solution of soda.

WE HAVE received the "Physician's Day-Book," by C. Henri Leonard. It is a presentable little volume and shows the same arrangement as that found in previous editions, an arrangement which makes it deserving of a further favorable reception.

NOW is the time to subscribe for THE LANCET AND CLINIC and OBSTETRIC GAZETTE for 1883.
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Original Communications.

THE MANAGEMENT OF THE PLACENTA AFTER ABORTION.

By H. Y. Sweringen, M.D., Fort Wayne, Indiana.

It being my intention to present the above subject to the next meeting of the Indiana State Medical Society for discussion, I desire now to introduce it to the profession generally, in order that, between this and the date of said meeting, I may profit by the criticisms and comments its present treatment may possibly receive. I will be glad therefore to receive any and all literature pertaining thereto, which the reader may have in his possession.

It is unnecessary to tax the patience of the reader with an exhaustive report of the opinions entertained by our standard authorities upon this most important practical subject. They are a unit in the advocacy of the primary extraction of the placenta without leaving the result to nature. They teach us that "absorption of putrilage from retained secundines is the most frequent sequel in abortion: that possible accidents from manipulation are not a sufficient reason for permitting a placenta to be removed by decomposition, and that by its early removal, septicæmia is therefore prevented." These authorities go so far as to say that "metritis can be traced to direct mechanical violence. If lesions have occurred in the process of extraction, infection in an empty uterus must be slight when compared with one in which the entire surface is exposed and covered by a decomposing placenta." At no little risk of appearing arrogant or presumptuous, iconoclastic or pessimistic, I desire to record most emphatically my dissent to these views. I am orthodoxically disposed as long as the doctrines taught by our leaders are in perfect harmony with honest experience and what I conceive to be natural, common sense. Unlike law and theology, it is the pride and boast of our profession that its every member is at perfect liberty to dispute any and all authority. If a lawyer should with bold and thoughtless assurance call in question a decision of Chief Justice Waite, he would probably be treated with contempt by both the bar and community. But the most ignorant pretender in medicine is not only allowed but not infrequently expected to set up a bold front against the entire coterie of standard authors. This liberty, if not abused, is by no means unproductive of good. An excessive devotion to authority and established routine has ever been the means of opposing the progress of reason, the advancement of natural truths and the prosecution of new discoveries. The excessive exercise of this liberty, however, is prone to keep up a constant excitement in the profession, and to continue it in a condition of unrest. There is, therefore, a strong temptation to many of us to act the part of a mere spectator: to look on indifferently and allow the profession to "wag as it will." Instead of lending a helping hand in the labor of investigation, we believe and adopt everything written or spoken without so much as referring directly or indirectly to the evidence upon which our doctrines are founded. There is, therefore, the more necessity of instituting that cautious observation which is the only preventive of error.

We are too much inclined to think that we cannot err if we but implicitly obey the dogmas of authority. In the most barbarous age of antiquity the physician was punished or rewarded according to the extent of his success, but to escape retribution it is only necassary to show that an orthodox plan of treatment had been followed, such as was prescribed by some acknowledged authority. We are prone to routine because it is always easier to follow the opinions of others than to reason and judge for ourselves.

We occasionally have an address, a paper or an editorial upon the subject of "the progress of medicine," of "medical education," or upon the question, is medicine a science," and the reader has no doubt heard or seen it affirmed by the medical speaker or writer that it is by observation and experience that we progress as a profession. This is true; the medical profession corrects by experience the errors into which it has been led. Our experience, however, may be erroneous. It may be intelligent; it may be innocently or wittingly based upon false premises. It may be subservient to that proud ambition so prevalent in our profession, to be the originator of a particular theory or mode of treatment—to be the only man living that has accomplished this or that, or figure prominently in the medical literature of the day, as authority upon a special subject.

It cannot be denied that we are unable upon all occasions to appreciate the efforts of nature in the cure of disease. This fact must always render our notions in regard to the powers of art, liable to numerous errors and multiplied deceptions. It is as natural as it is often erroneous to attribute the cure of a disease to the last medicine administered, or its prevention to certain measures adopted for that purpose. All along down through the history of medicine every devotee thereof relies upon experience. The advocates of amulets and charms have pointed to the testimony of what they are pleased to term experience in justification of their superstitious practice. The homœpath, the hydropath, the electropath, the eclectic and the "regular" physician all alike appeal to experience in support of their claims to the respectful consideration of the public, and thus, many cases which were but most lucky escapes, have been triumphantly regarded as skillful cures, and in this way have medicines, measures and physicians acquired unmerited praise or unjust censure. But we are wandering from out text, and will therefore return to it, trusting that the digression will be pardoned.

In the city of Fort Wayne, Indiana, in the month of March, 1876, Thomas Ryan, residing on Baker street. called at the house of the writer hereof, to have him visit his wife. We complied with his request in due time, and upon our arrival found her delirious, in the dorsal decubitus with her knees drawn up, and her abdomen greatly tympanitic. Her pulse beat feebly at the rate of 150 per minute, her tongue was brown and dry, pupils widely dilated, and the well-known but indescribable putrid odor was emanating from her person. Having broken, but a short time prior to this visit, our thermometer, her temperature was not taken. Previous to our visit we had gleaned from Mr. Ryan the following history of her case:

Somewhere between four-and-a-half and five-and-a-half months of utero gestation, she aborted. The placenta not having come away as soon as was desirable, the cord alone yielding to considerable traction, her physician informed her that he would be obliged to extract it with instruments, otherwise it would become putrid, and by absorption, poison her blood and most likely prove fatal. Accordingly, with the assistance of a brother practitioner, he placed her under the influence of an anæsthetic, and, with the placenta forceps, extracted it in pieces, no little force being required to accomplish its detachment. In the course of a few hours thereafter she was attacked with a violent chill, followed by high fever, pain and tenderness over the uterine region, great thirst and a rapid pulse. From this period she grew worse rapidly, her symptoms becoming more and more alarming until her physicians pronounced her beyond all hope of recovery, when they were discharged and the writer hereof sent for. Our prognosis was equally unfavorable: we did not entertain the slightest idea of a successful issue. We instituted, however, the following treatment:

℞ Opii pulv. grs. ix
Quin. sulph. ʒss M.
Fit. pulv et in ch. no. vi div. et
Sig. A powder every four hours.

℞ Tr. ferri chlor. ʒ ii
Spts. æth. nit. ʒ vi
Vin. xererici q. s. ad ℥ iv M.

Sig. A tablespoonful in water two hours after each powder.

In addition to the foregoing, we ordered a large flaxseed poultice to be placed over the abdomen, and the following vaginal (and possibly uterine) detergent injection:

℞ Acid carbol. cryst. ʒss
Glycerine f℥ iiiss
Tr. opii fʒ iv M.

Sig. Add one or two tablespoonfuls to three pints of water as hot as can be borne, and use as directed night and morning.

To the utter astonishment of the friends and the writer, she finally recovered.

Sever years have passed away since this memorable case occurred. I say memorable, because presenting itself as it did, in the first years of my practice, it afforded me a most instructive experimental lesson, and an opportunity to test the soundness of the authorities upon this vital question. We have yet to make use of the forceps and we opine that we will never employ them. Our impulsive though positive disapproval of the course of treatment pursued by our predecessor, was the honest and natural result of its conflict with what we conceived to be sober reason, a position which subsequent experience has fully sustained. It is because of the recent occurence of another and very similar case that I thought it proper to introduce the subject for the consideration of the profession.

In order that the case I am about to relate may become better understood, allow me to preface it with a short introduction:

In the early part of last September, Mrs. A——, having missed several menstrual periods, was delighted in the hope and belief that she was pregnant with her fourth child, herself and husband, be it said to their credit, being desirous for another babe. But alas! soon after thus giving expression to her joy in the happiness in store for her, she miscarried, the fœtus having been expelled and the placenta retained. Her husband called upon us to know what to do concerning the latter. We advised him to keep her quiet, give her a teaspoonful of fluid extract of ergot every two or three hours, an occasional dose of quinine, to use carbolized injections if any disagreeable odor was detected, and, if the pains were very distressing, to give a teaspoonful or two of paregoric as often as may be deemed necessary. In due time the placenta came away and she progressed nicely to her normal condition without an untoward symptom. We did not even make her a single visit. During the first week of the following October, Mrs. B——, a very intimate friend of Mrs. A——, also miscarried under circumstances exactly similar to those under which Mrs. A—— aborted, and therefore need not be repeated. Her physician, a homœpathic practitioner, informed her in the presence of Mrs. A——, that unless he extracted the placenta instrumentally, she would be in danger of blood poisoning from absorption of the products of its decomposition. This announcement caused a severe shock to the nervous system of Mrs. A——, as she very naturally reflected upon the great danger she herself escaped, and formed the basis of a few animadversions upon the negligence or ignorance of her own physician, which were by no means pleasant. The forceps were there, fore employed, the placenta torn away from its attachments, and the doctor left his patient proud in the thought of not only having actually done a big thing, but of having made a very favorable impression upon the patient of another physician. This impression, however, was short lived, for at this writing, November 26th, his patient is still upon her back, and his bill, if correctly itemized, will include treatment for metritis, endometritis, peritonitis, phlebitis, retroversion, anteversion, partial inversion, prolapsus, leucorrhœa, hyperplasia, etc., etc., *ad infinitum*. Indeed, the only wonder is that she is living at all. Can it be possible, I ask, that Nature, so full of the most exquisite and intelligent design has failed to make any provision for these cases? Who that has contemplated the infinite wisdom displayed in the construction of the human organism, of the eye or of the ear, can believe for an instant that the same supreme intelligence is in no manner successfully prepared for such emergencies?

He assists nature best who assists her in her own way. The question is then, which constitutes the most natural assistance: the use of the placental forceps or the placing of the patient in the most favorable hygienic and sanitary condition, the adoption of such measures as will aid her constitutionally to throw off in due time the foreign material and render non-infectious the products of its decomposition. The nearer the apple upon the parent tree approaches maturity, the more readily is it plucked. Reasoning thus by analogy, the earlier the period at which an abortion takes place, the more tenaciously will the placenta adhere to the walls of the uterus and the greater force will therefore be required to effect its detachment. The greater the force required to accomplish its separation, the greater the danger of setting up inflammation at, and of its rapid spread from the site of adhesion.

Immediately following the rupture of the membranes and the expulsion of the fœtus, the adherent placenta becomes a foreign body; it is now dead tissue to be cast off gently by the reconstructive forces of nature, the vis medicatrix naturæ, and not to be jerked or torn off by the forceps in the hands of the meddlesome physician. Something is neccessary to be done by nature upon the living surface of the uterus and upon the dead surface of the adherent placenta, a line of demarcation is to be formed in order to insure a healthy sloughing or its safe separation in the normal order. A little time is therefore necessary for the accomplishment of this object. To tear away forcibly the placenta is to place the patient in a traumatic condition with all which that condition implies, and traumatism implies inflammation, the danger of its spread, of septicæmia and pyæmia.

Verneuil, of Paris, has advanced the theory that in the traumatic condition a virus is formed peculiar to that condition by which deviations from the healthy process of repair of wounds is to be explained. But, it may be said, the patient is already in the condition of traumatism. This is not strictly true in the ordinary or common acceptation of that term. After an ordinary natural delivery at full time, the patient can hardly be regarded as being in a much less pathological condition than she would be from the expulsion of the fœtus at any previous period of utero gestation. We will suppose, however, that she is in a more or less pathological condition: does this fact or supposition constitute a plausible or sufficient reason why we should increase or intensify that condition and render it one of positive, pronounced and unmistakable traumatism by tearing away the afterbirth? In the sense in which we are now considering this subject, it is not always true that:

"There is a Divinity which shapes our ends,
Rough hew them as we may."

Even Divinity, himself, not infrequently fails in his efforts to "shape up" the "rough work" of the meddlesome physician.

The theory upon which the immediate extraction of the placenta is found is very plausible indeed, and there can be no doubt that in some instances, death has been caused indirectly by its retention; these instances, however, are more than counterbalanced perhaps, by those in which death has occurred as a direct result from efforts at forcible extraction. But we hold that *as a rule*, the danger of blood poisoning is more apparent than real. The very condition of things in these cases is opposed to the process of absorption; the womb is now in a condition more favorable to exosmosis than to endosmosis; to drainage than to stagnation. Of all the measures calculated to insure a successful issue in these cases, the principle of drainage stands preeminent. It is undoubtedly the principle upon which the Great Creator designed and constructed the human organism, for a moment's thought will remind us that it embraces millions of sewers. Hence, the most rational treatment is the adoption of such measures as will aid the patient to drain herself of the products of decomposition as soon as they are formed, and to institute such constitutional treatment as will enable her to throw off in due time the dead from her living tissues. In case of hemorrhage the irrigation of the uterine cavity with water as hot as can be borne will not only check it, but prove a valuable antiseptic, antizymotic and detergent measure.

May it not be true that something more is necessary to cause blood poisoning than the mere absorption of decomposed placentæ; that there is such a thing as benign, non-infectious, innocent or harmless putridity in the same sense that we speak of healthy or laudable pus? Robin asserts that putrefaction destroys animal poisons and this view is sustained by a number of cases in my practice treated since the notable one of Mrs. Ryan's, in which the odor was most intolerable, unusually disgusting, more characteristically putrescent, and yet they all recovered their normal condition without the slightest symptom of blood poisoning. This happy result may, however, be wholly due to the fact that no part of the foul drainage had been taken up by the circulation; but is worthy of note that in the fatal cases of childbed fever which I have seen, the fetor present was not to be compared in offensiveness with that which characterized the cases of recovery from retained placenta. I have read somewhere an account of several cases in which the entire placentæ were absorbed without producing any deleterious results whatever; but in these instances they may have remained so vascular or so vitally connected with the uterus, that they were simply removed as an ordinary deposit of lymph is absorbed, without the occurrence of the least amount of decomposition.

Very little is, I think, *positively* known of the nature of the putrid poison which is called *sepsin*, whether it is a soluble substance of chemical origin, or whether its poisonous qualities are due to those minute living organisms which are denominated bacteria.

Having written sufficiently at length to indicate the light in which we view this subject, we close its present consideration as we began, with the request that everything pro or con relating to it, which may be known to those who chance to read this article, may be sent us before the meeting of the Indiana State Medical Society, which takes place in May, 1883.

ANÆSTHESIA OF THE PHARYNX.—According to M. Cozal, painting the mucous membrane of the pharynx with the tincture of coca will secure anæsthesia of the part. If this be true, the result is probably due to the alcohol.

A CASE OF HEPATIC ABSCESS.

REPEATED ASPIRATION. — FREE INCISION WITH WASHING OUT OF ABSCESS CAVITY. RECOVERY.

By R. B. HALL, M.D., Chillicothe, Ohio.

I report this case of hepatic abscess, not because it is a rare disease, but because of the interest in the case, course of treatment, etc.

October 26th, 1881, I was called in consultation with Dr. M. L. Scarbrough, of Clarksburg, Ohio, in the case of Mr. D. C., aged twenty-eight years. Family history good, always enjoyed good health previous to present illness. At the time I saw him he had been sick for about five weeks. He first had an attack of remittent fever of ten days duration, after which he had pain in his knees, ankles and elbows with tenderness and swelling. These symptoms passed off in about ten days, after which he improved, but had a persistent hacking cough which yielded a light frothy expectoration, but he was never able to be out of bed.

For six days previous to the time I saw him he had had irregular attacks of rigors followed by fever and severe headache daily, which were followed by profuse and exhausting perspiration. Tongue dry and covered with a yellow coating. He had complete anorexia, obstinate constipation for ten days and was greatly emaciated. Percussion and auscultation revealed no serious lesions of the thoracic viscera. Moist rales heard over both lungs. He was lying on his back with knees drawn up and complained of a dull burning pain in the region of the liver. Enlargement of the liver was diagnosticated by measurement, palpation and percussion, the dulness extending two inches below the margin of the ribs. The region corresponding to the contour of the liver was uniformly bulged, with tenderness all over this region. Color of the skin normal.

Suspecting an abscess of the liver, he was ordered a sustaining course of treatment, consisting of liquid diet, tonics and stimulants, with anodynes, and another consultation set for October 30th. On seeing him again, at this date, the patient was about the same in general appearance, but was much weaker, the perspiration having been almost constant. There was now a flattened prominence over the right side posteriorly with what seemed to be deep-seated indistinct fluctuation. I used the aspirator with a large needle and removed fourteen ounces of yellowish-white pus destitute of odor. His appetite now improved, the perspiration almost ceased, he rested without anodynes and was better for five or six days when he again complained of the pain in his right side and the anodynes were again ordered.

He gradually became worse from day to day, the side becoming more prominent, and on November 11th we again used the aspirator, this time getting only eight ounces of pus. Our largest needle became blocked and we could not empty the cavity, but enough was removed to afford him temporary relief. After this his appetite improved and he seemed much relieved in every way. It was only four or five days, however, when all his former symptoms returned and he grew worse than he had ever been.

On November 22d, we used the aspirator a third time, getting on this occasion thirteen ounces of pus of a dull grayish color, but destitute of odor. He did not improve so much as after the previous aspiration, his sweatings continuing and appetite failing so that he could not be induced to take even liquid food. He ran down faster than ever, his sweatings grew more profuse and exhausting than at any time before. He had hectic fever and muttering delirium when asleep. We now began to lose hope in the case, certain death threatening our patient.

On November 30th we again used the aspirator, making the fourth time, and removed about eight ounces of pus, in color like the last, but of very offensive odor.

In our previous use of the aspirator we had punctured the side over an area of about two inches. We hoped that the liver had become adherent to the parietal wall over the above-mentioned space, for we now decided to lay the abscess freely open and wash out the cavity, looking upon this as the only means of giving our patient a chance for life. Leaving the needle still in position I used it as a guide and freely incised the parietal wall between the tenth and eleventh ribs for two inches, opening the abscess to that extent, and let out fully one pint of pus. The pus removed was like that removed just previously by aspiration and contained many lumps and shreds. I at once washed out the cavity with a warm five per cent. solution of carbolic acid, pumping it in with a Davidson syringe until the liquid returned clear.

The liver was adherent throughout the extent of incision. No anæsthetic was given, the patient refusing, and he took only a hypodermic of one-fourth grain of morphia. The patient bore the operation well for one so weak and no untoward symptoms followed. We now directed that the cavity be thoroughly washed out every six hours with the antiseptic solution.

After the second day he seemed better, rested without anodynes, took milk, beef tea and stimulants. His perspiration almost ceased and he improved so rapidly that in one week he took liquid nourishment freely. After the fourth day there was about an ounce and after ten days about half an ounce of pus discharged daily and the quantity rapidly diminished till the end of the fifth week, when the cavity had entirely closed, and the wound was completely healed in eight weeks. He could sit up in his chair in five weeks after the operation but it was three weeks later before he felt strong enough to walk out.

In a review of this case it is clear that the aspirator was not equal to the demand. Though in itself good and its use often followed by the happiest effect, yet in the present instance our patient surely would have died had we depended upon it alone for drainage. Again the washing out of the cavity seemed to me the part of treatment especially indicated. The case shows the good that may come from proper measures in most desperate cases and that a cure may be effected in this class of cases when the aspirator has utterly failed by freely opening and thoroughly washing out the cavity.

Correspondence.

JOTTINGS FROM FOREIGN CLINICS.

VIENNA, Nov. 10, 1882.

Editors Lancet and Clinic:

A person writing from this place seems to be placed in a sort of predicament what to write about, for of all places the foreign correspondent selects this one as a suitable field of operations, and daily letters are sent home to various journals in different parts of the country. Your valuable paper has had its quantum of correspondents from this city during the last years and they have told us much as regards the advantages and disadvantages of this far famed place, the goal of almost every ambitious student of medicine. It is, therefore, rather difficult to select a suitable topic that will interest the greater portion of your readers, and we must arrive at one by exclusion as it were. We must assume that most of the readers have read former letters and are therefore familiar with this vast hospital, and for fear of repetition exclude that topic. Again, personal comment on our teachers abroad are ill-timed and belong rather in the pages of *Puck* than in those of a medical journal. We also exclude that and take up what is left, viz; interesting and practical cases, new methods of treatment, etc.

If the reader will follow me, in imagination, across the broad Atlantic, we will enter the clinic of Prof. Braun, the leading obstetrician of Vienna. The bustle and excitement in the anteroom, the running to and fro of assistants, show that something out of the daily routine of events is about to take place. Yes, it had been whispered around that Prof. Braun would perform a Cæsarian section with extirpation of the uterus and ovaries, at nine p.m., and that probably accounted for the fact that four-fifths of those present were Americans, continually on the alert to see something that was worth seeing. We enter the clinic room and are greeted on our entrance by the singing of the carbolic acid spray, annihilating the microscopic germs in the atmosphere, and, perchance, (we all hope so) killing one or two of the innumerable microscopic fleas found in this locality. While waiting for Prof. Braun we have time to look around and take note of the preparations which have been going on for some time. The room is excellently well lighted and of a pleasant warmth. To the right of the high operating table is a large basin in which the sponges are kept in hot carbolated water. The sponges are large and flat and almost white, having undergone a peculiar process of cleansing. At the foot of the table is a tray containing the necessary instruments in a warm solution of carbolic acid. A larger table stands somewhat to the left and contains instruments of various kinds that may, perhaps, be required according to circumstances. Everything seems to have its place, and it must be remarked here that not once during the entire operation was there the least bit of confusion, and all demands of the operator were complied with almost before they were uttered.

But Prof. Braun has entered, a large, jovial man, weighing about 250 lbs. He briefly calls attention to the preparations remarking that seven assistants are absolutely necessary; one to administer the anæsthetic; one to take charge of and keep count of the sponges; one to watch the pulse and condition of the patient; one to take charge of the instruments and hand them to the operator; one to work the thermo-cautery; one to assist the operator, and one general assistant to do as the others bid. Everything shows military discipline. The anæsthetic used here and in all other parts of the vast hospital is not ether, but a mixture of alcohol, chloroform, and ether, not, however, in the proportion of the A. C. E. mixture. It is made up of three parts of chloroform and one part each of alcohol and ether.

So far I have not seen ether used on the continent, and certainly the modified A. C. E. mixture does better in all respects than the pure ether and is perfectly as safe as the latter. Its advantages consist in its more agreeable and pleasant odor, the absence of the peculiar choking phenomena arising in administering ether, the shorter time required in getting the patient under, the absence of violent struggling on part of the patient. The anæsthetic is administered in small quantities at a time on a piece of white flannel spread on a wire frame sufficiently large to cover the nose and mouth. A handle is attached by which it can be conveniently held. It is known as the ‘ Vienna mixture.”

The history of the patient about to be operated upon is, in short, as follows: Thirty-three years old, poorly nourished, has been in the family way seven times. Aborted for the first time at the third month in 1872. Again at the fifth month in 1874. Again in 1878. In 1877 and '79 premature labor was artificially produced, and in 1880 craniotomy had to be performed. Now pregnant for the seventh time and within fifteen days of full time having only been admitted three days ago. A great contraction of the pelvis existed due to osteo-malacia.

Narrowing of both oblique diameters is present, “a disease so rare,” says the editor of Playfair, “that it is not recorded in a single instance as a cause for gastro-hysterotomy in the United States.”

The right oblique measured three cm. the left three and one-fourth cm., and nothing but Cæsarian section was indicated. The greatest intensity of fœtal heart sounds in right lower quadrant.

The patient being now fully under the influence of the anæsthetic, Braun began the operation, first, however, turning off the spray, which is only used to disinfect the atmosphere and is never directed towards the operating surface. The usual median cut was made and the uterus immediately laid bare. I need not here mention all the particulars of the operation which are so familiar to the readers, but only pick out one or more of the most important points. In order to prevent profuse hemorrhage a ligature and clamp were applied to the uterus and far down as circumstances permitted, the incision made and the child (a living boy weighing 2800 grammes) extracted. The uterus and both ovaries were then removed by means of the écraseur the pedicle crushed as much as possible and thoroughly charred by the thermo-cautery, and returned to the peritoneal cavity. The abdominal wound was approximated by silk sutures, iodoform sprinkled over the wound, cotton batting placed around it and the abdomen bandaged. The operation was performed with a skill and a coolness that I have rarely seen equalled. Prof. Braun scarcely changed his position during the operation and certainly paid attention to the minutest details in dealing with the peritoneal cavity. Scarcely a cupful of blood was lost during the whole manipulation and every precaution taken so that none found its way into the cavity of the peritoneum.

I am sorry to state that both the mother and child perished. The mother died from peritonitis and the child followed soon after.

Just two weeks before the performance of this section. Spaeth, another obstetrician of almost equal renown, performed a Cæsarian section with equally fatal result to both mother and offspring.

Iodoform is used very extensively here. It is dusted into the eye, it is introduced into the ear, into buboes, used for dressing wounds, etc. It may be of interest to some of your readers to know of an instrument, the "iodoform spray" which is used by Prof. Neumann in the venereal wards. It struck me as simple, extremely useful and eminently practical. It is an instrument on the plan of Richardson's hand spray for producing local anæsthesia. The principle is the same. Two rubber bulbs or balloons as in the thermo-cautery apparatus, connected by means of a rubber tube to a tube dipping into the bottle holding the mixture, which is forced out by means of another tube in the form of a spray. One part of iodoform to seven parts of ether are used. The iodoform is spread as a thin and perfectly even layer over the sore or wound. The spray can be directed to any particular spot and the operator is perfectly secure from getting any on his person and carrying the smell around to the disgust of his fellow-men; for several days. I certainly think this little instrument would prove a valuable adjuvant to the venereal wards in our hospitals.

I witnessed an instructive as well as interesting case the other day showing the value of post mortem examinations. Kaposi Hebra's successor announced to the class one morning that seven days ago a woman had been admitted to his wards, presenting all the symptoms of tertiary syphilis; that sudddenly yesterday, she developed aphasia, hemiplegia, convulsions and coma, and soon died. He thought that a large gumma of the brain would be found post mortem, but as the post mortem showed, he was sadly mistaken. On opening the brain, the dura mater was found much thickened and on its removal fully two-thirds of the left hemisphere was covered with a thick purulent matter. On further examination of the cause it was found in a neglected and long standing otitis media purulenta of which no notice had been taken, the patient on entrance simply complaining of deafness. In other cities and hospitals where post mortem can not be obtained as easily as here, syphilis would have been blamed with another death and no one been the wiser.

As the ear and eye almost always are associated together, I cannot refrain from mentioning in this connection one of the most interesting, and probably as unique a case as the literature of opthalmology contains, which I had the good fortune to see in Prof. Jæger's wards and which Prof. Mauthner demonstrated to his class this afternoon.

It was a case of cysticercus in the vitreous humor of a young girl, eighteen years old. Now the fact of the presence of a cysticercus in the vitreous humor is in itself nothing remarkable, literature containing a great number of such cases. Alfred Graefe in Halle sees four or five a year on an average. The great Albrecht v. Graefe in 80,000 cases of eye-troubles saw eighty cases of cysticerci making one in 1000. Here in Vienna they occur much less frequently and when Virchow was asked why this was so, he replied: "Because they (the ophthalmologists of Vienna) do not take the pains to look for them carefully." Mauthner has only seen three unmistakable cases in fourteen years.

The interesting and unique feature in this case was that the cysticercus could be seen with the naked eye as a yellowish mass, the different parts of it being easily distinguishable even to its four suckers. It wriggled around almost constantly, moving its head up and down and around in various directions, sometimes presenting its whole length and sometimes only a small line being visible, as a side view. It was at the same time an interesting, instructing and entertaining sight. The vitreous presented the peculiar threadlike striæ, arranged like prison-bars, so characteristic of the presence of a cysticercus. Of late years the extraction of cysticerci has again been prominently agitated, by means of a wound in the sclerotic at the site of the cysticercus. If made early and if successful it preserved the shape of the eyeball and vision.

In later stages when vision is already lost, it prevents, if successful, iridocyllitis and sympathetic trouble and takes the place of enucleation. The most favorable cases for operation are those in which the cysticercus is situated in the vitreous and is attached, not being freely movable. The most unfavorable are the subretinal ones. Of twenty-four cases operated upon by Alfred Graefe eight were unsuccessful, owing, probably, to the liquefaction of the vitreous and the movable position of the cysticerci.

As "variety is the spice of life," and probably of a medical journal too, I would like to call the attention of those of your readers who have not as yet read the reports, to a treatment of chronic (strumous) enlargement of the thyroid gland (*blah-hals*, as the Germans call it). It consists of an injection into the gland by means of the ordinary hypodermic syringe of a solution of one part of sol. fowleri to three parts of distilled water. One-third to one-half of a syringeful are injected at one time, about three times a week according to circumstances. It occasions no pain and inflammatory reaction does not follow the injection. Of 1000 cases reported by a Berlin clinician not one was followed by any reaction and all cases showed either an entire disappearance or a great diminution in the size of the swelling, by actual measurement of the circumference of the neck. Measurements should be made before and after each injection. A number of cases that I have watched in Prof. Stoerk's clinic, have certainly been marked by improvement under this plan of treatment and it is certainly worthy of a trial. ERIC E. SATTLER.

THE FOUR MEDICAL COLLEGES OF BALTIMORE—AN IDEAL TEACHER—A SURE CURE FOR DIPHTHERIA—THE PREVALENCE OF SMALL-POX.

BALTIMORE, Nov. 25, 1822.

Editors Lancet and Clinic:

Baltimore in the winter time is a very different place from what it is in summer. Like every other large city and center of learning, Baltimore is, to a great extent, depopulated, and one calls at the house of a friend or rings the door-bell of an acquaintance more on the scant purpose of leaving a card than with any expectation of finding him in. With the approach of winter, however, this difficulty vanishes, and the refugee doctor, perhaps long before other summer idlers, finds his way back to the city. Indeed, not only is everybody at home, but, as ever, all are hard at work in the great struggle for existence and preferment. In nothing here is this struggle more apparent than in the one matter of medical education. A Baltimore physician is simply nothing if not a professor, and out of this lamentable fact have grown no less than four medical colleges. And what is still more deplorable they all continue in full operation; for though to the public gaze they may wear the badge of prosperity, still, within the depths of their own hearts, these laboring teachers groan under a strain at once mental, physical, and pecuniary. Once being enriched by having the word Professor attached to their names, they give it up as they would yield up their last dollar or their lives.

The post-graduate school fever which has within the past few weeks attacked almost every large city in the country, is also showing symptoms of development here. The chill has already occurred, and several of the younger members of the faculty of the University of Maryland are experiencing the precursors of fame in the way of numerous cold shiverings and hot flashes chasing each other up and down the spinal column. Although no definite shape has yet developed to give the enterprise a name and character, still it may be taken for granted that Baltimore is not to be far behind her sister cities, even though she be infinitely poorer, and a trifle less capable.

The free dispensary at the Baltimore Infirmary is gradually to be merged into an institution of this kind, which fact alone will stamp it as an outgrowth of the Maryland University.

Although the College of Physicians and Surgeons has, during the past few years, taken the lead in the matter of numbers of students, still it cannot be said that the old and time-honored University has ever lost prestige, or given cause to be considered as anything but first class. In one particular has this latter institution been benefited of late—that of substituting in the faculty younger for older men, all other things of course being equal. In the proportion in which this change has been carried out has the vigor of the institution been enhanced, and the lack of a proper endowment been compensated for. A Faculty of competent and energetic young men bears success upon its very face, even in the presence of innumerable difficulties; for prosperity always keeps pace with intelligent and vigorous work.

Sauntering into the broad gateway of this ancient college my curiosity led me to the anatomical room where a lecture was in progress. When I passed in I could get but a little way so crowded was the entrance, but, on peering above the heads of those around me, I saw numerous seats in the distance. I must have been in the peanut corner, for I could see and hear without being observed. About two hundred students occupied seats in the amphitheater, ninety-five of which number, said a student, were candidates for graduation. Everything was stillness and attention and the utmost interest prevailed on all sides. Not a student disturbed the quietness of the hour even with an involuntary cough, and no single one (rare occurrence indeed) was nodding or asleep. The lecturer was a large well proportioned man of commanding and dignified appearance. His hair was dark with the slightest mixture of gray, and he wore a moustache and side whiskers of not very heavy growth. His chin was massive, nose prominent, and forehead of the variety known as high, without any suggestion as to baldness. His delivery was exceedingly fluent and pleasing, and might without extravagance be compared to the ripple of running water, so natural did it seem. No hesitations, no stumblings or breaks, no clearing of the throat or spitting, but a steady flow of words uttered in a melodious voice, and attended with a manner which at once charms the listener and the looker-on. The subject under discussion was fractures about the elbow joint, and so clear was every point made and so thoroughly was every feature treated that I will venture to say that no student who heard that lecture will ever go amiss in the management of such cases. Of a student on my right I asked the name of the lecturer. "Prof. McLane Tiffany," he replied. I was so pleased with the appearance of the man that I ventured to introduce myself and I soon found he was every inch the gentleman I had mapped him out to be.

Such, we may say, is the leading spirit of the medical department of the University of Maryland, for to him, perhaps, more than any other, in recent adversities of the institution, is due the credit of furthering means to prosperous ends.

The Baltimore Infirmary, just across the street from the University building, is the most commodious institution of the kind in the city. Nothing very flattering can be said of this institution, notwithstanding the fact that the clinics here are controlled by the university people. It is a dingy old structure with queer appointments, and, seemingly, a hiding place for legions of disease germs, though it is affirmed that serious operations may be undertaken here without any special fear of bad results. I was surprised to see cases of typhoid fever and the like in the surgical ward, and to learn that no manner of cases were kept separate except the single instance of lying-in patients. Smith's anterior splint seems to be the only appliance used for the treatment of fractured femurs. Baltimoreans claim to have a superior knowledge of the use of this splint, and profess to be perfectly satisfied with it. I saw one patient there with fracture of both femurs dressed with these splints; the limbs were flexed in the usual way and widely separated, while a pillow was placed under the hips and the suspending cords inclined enough to produce the requisite extension.

Listerism is not patronized here, but cleanliness and pure air are indulged in to the full extent allowed by the imperfections of the building. Long verandas extend around on a level with each floor, enabling inmates to get the advantage of fresh air, as the beds of the sick are pushed out upon these spaces whenever the weather permits.

A part of the building on the first floor is devoted to the polyclinic and out-patient departments, but the sight of the room has not a pleasing effect; the little boxed up apartments appear cramped and the whole place looks dingy enough to make the patients who frequent this haunt homesick. It reminds one for all the world of the dispensary belonging to a poverty stricken medical college, instead of one receiving an endowment from the city. After passing through this infirmary and several others of a similar character, one begins to wish for the speedy completion of the Johns Hopkins Hospital, so that it may be said that Baltimore has at least one institution of the kind to which she may point with pride.

The College of Physicians and Surgeons is not so prosperous this year as last. There has been a significant falling off in the number of her class, and the wiser heads connected with the institution fear that the worst has not come. The principal loss has been among the Pennsylvania students on account, as has been asserted, of a recent regulation of the Board of Health of that State requiring all to pass a special examination before being eligible to practice. In conversation with Dr. A. F. Erich, of this college, I was lucky enough to obtain the particulars of "a sure cure for diphtheria. I did not expect such valuable information to be given up without compensation, but Dr. A. is strictly unselfish in what concerns the life and health of a fellow being, and asks nothing more than the honor of discovering and introducing the remedy. "Do you really think you have such a specific," I inquired, without aiming to conceal my skepticism. "I am certain of it," he replied, "I have never seen a case where my treatment, if properly carried out, will not succeed." The treatment consists in giving one or the other, or both of them alternately, of the following prescriptions: ℞ Tincturæ ferri chloridi ʒi, quiniæ sulphatis gr. viij, sirupi simplicis ℥iv; m. Sig. A teaspoonful to be given every hour, day and night, to children from two to five years old; for adults the dose is larger. In malignant cases the above is to be alternated with the following: ℞ Acidi benzoici ʒi, sodaæ boratis ʒ iss, aquæ ℥vi, m. Sig. A teaspoonful to be given every hour, so as to give a dose of one or the other mixture every half hour. The iron mixture is to be given every hour for at least two days and nights, after which it can be given less frequently; the benzoic acid mixture is to be stopped after the disappearance of the false membrane. When both mixtures are given at night, the child is to be aroused only every hour. No other treatment is to be allowed during this time except nutrients and stimulants, and no water to be taken for at least five or ten minutes after taking the medicine. These precautions are taken to insure the treatment being carried out in every particular and detail, without which success is not guaranteed. The Doctor has not lost a single case in four years' practice, in which time he has encountered the number of diphtheria cases occuring in a large general practice. He has already had five cases since the first of the present month. In reply to a question as to whether these cases were really diphtheria, he remarked that he had been several times called into families where three children had already succumbed to the disease and the fourth one appeared moribund but rapidly recovered under the treatment mentioned. As to the time required to complete a cure, he replied that three out of four cases are out of danger in two days. The Doctor thinks the treatment acts both locally and constitutionally by destroying the germs of the disease, and attributes its phenomenal success to the frequent and persistent administration.

In conversation with others about this alleged specific for diphtheria, it was claimed that it had been frequently tried and found wanting, and that its originator is ridiculously enthusiastic on the subject. Dr. E— is aware of these unfavor· criticisms and retaliates by declaring that the treatment is not carried out to the letter by those who fail, and in reality it is more the blunder of such individuals than the failure of the remedy. The third medical college of Baltimore, or, more properly speaking, the Baltimore Medical College, and called sometimes the Christian Medical College, and even facetiously dubbed the man and woman medical college, is not reported to be on so firm and prosperous a basis as it might be. The number of students is quite small notwithstanding the fact that the fees are said to be quite nominal, and it would not be a startling bit of news to hear at any time soon of a death from inanition. Although what is called the "beneficiary system" is so rooted in Baltimore that it cannot be dispensed with, and the real schedule of fees is lamentably below the standard of colleges east and west, still it is hinted that at this institution there are no such things at all as fees. This being the case the only crumb which keeps the machine alive is the low-priced notoriety which it brings to its supporters.

The fourth medical college is exclusively for women, and sheds the luster of instruction to at least ten full fledged female medical students. Enough special students come in to swell the number to sixteen, and two are candidates for graduation. The projectors of this new school seem so far well satisfied with the venture, and it may be said that the tendencies of the times are to build up rather than demolish such schools.

Small-pox is making things quite lively here, thirty-two deaths from this cause having occurred last week. Vaccine virus is in demand and the festive yellow flag floats triumphantly upon the breeze.

It was my good fortune to-day to meet Dr. D. W. Cathell, author of the *Physician* himself. He has already sold six thousand copies of his little book and still the demand increases. At first the author was compelled to peddle his manuscript about from house to house without a single publisher seeing fit to take hold of it. He brought it out himself and now that it is a success, they see their error. The work has, however, passed into the hands of an established Philadelphia house, in consideration of a liberal arrangement with the author. Dr. Cathell is an unusually successful man in practice and not less than several practitioners have been obliged to seek other quarters than his part of town, though he resorts to no unfair means and scores his advantage on the most legitimate principles. His knowledge of human nature must be something wonderful.

R. B. D.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of November 13th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary*

Tetanus—Its Diagnosis and Treatment.

DR. WHITTAKER said that the pathology of tetanus was as obscure as that of other neuroses as hysteria, chorea, epilepsy, etc. Pathologists are on the wrong track in looking for the lesions of tetanus. On account of its appearance so frequently after a trauma, it has been described chiefly as traumatic tetanus depending on the influence of the wound on the nervous system. It is more rational to look for the pathological changes in the blood as depending on the presence of some noxious material in the circulation as micro-organisms. Rabies, for instance, and cerebro-spinal meningitis, which closely simulates tetanus, depend on such a cause. As the speaker had agreed to enter more especially into the subject of differential diagnosis he would mention some of the affections that most closely simulate tetanus. He had seen cases of cerebro-spinal meningitis that so closely simulate tetanus as to be led to enquire into the possibility of strychnine poisoning. Some of the differential points in tetanus and cerebro-spinal meningitis are the following: in tetanus there is generally a wound, in spinal meningitis not; in tetanus there is opisthotonus, in spinal meningitis rather orthotonus; cerebro-spinal meningitis is apt to be epidemic, tetanus not. In spinal meningitis hyperæsthesia, headache and constipation are more marked and the convulsions more constant than in tetanus. Next in frequency hysteria is apt to resemble tetanus; but here we are guided by the sex and age—occurring in females at the age of puberty. Opisthotonus is also marked but in hysteria it lasts longer and is associated with emotional disturbances. The rigidity of the muscles is generally confined to one member, especially the leg.

In hystero-epilepsy—epilepsy with hysteria—the symptom most marked is a temporary loss of consciousness as in tetanus, but in general hystero-epilepsy there is an aberration of the mind which is not present in tetanus.

Other neuroses may simulate tetanus as, for instance, writer's cramp. The speaker saw one case where it was like tetanus. The diagnosis may be made by the absence of a wound and the fact that the spasm commences in a group of muscles, the direction being from the periphery to the center, whilst tetanic contractions run from the center to the periphery.

The most embarassing resemblance occurs in strychnia poisoning. This presents so many points in common with tetanus as to be called strychnia-tetanus. Here again we must bear in mind that tetanus generally requires a wound; it is consequently a reflex nervous affection—in strychnia poisoning there is an absence of a wound. Tetanus was said by one of the speakers to occur at once like a flash of lightning, but in the speaker's cases as well as those described in the general literature of the subject, there are some prodromata as pains, headache, etc.—in strychnia poisoning the tetanic symptoms set it at once after the ingestion of the poison. Tetanus begins with trismus—in strychnia poisoning, this symptom occurs late in the affection, the contractions beginning in the spine. In strychnia poisoning the muscles of respiration are especially involved, so exceedingly characteristic as to form the differential diagnosis—the patient dies by apnœa. The intervals of convulsion are much shorter in strychnia tetanus than in general tetanus. Death generally occurs in two or three days; when it occurs after a longer time it is not due to strychnia.

DR. YOUNG said that he had occasion some time ago to seek information on diseases of the nervous system. When he came to the pathology of tetanus he found no satisfaction and spent but little time on it. Post-mortem examinations have shown only a slight congestion or softening in no wise specific to this disease. Recent observers state that the ganglion centers of the median as well as the lateral portion of the cord have undergone change. Changes of that kind are slow and chronic in character in atrophy, paralysis, etc., and in these affections they are all alike. In the degeneration of the cord in chronic diseases the anterior horns are changed, there is very little effusion of blood but a want of blood supply, whilst in the lesions of tetanus there is an abundance of blood, an effusion with leucocytes thrown out, of which the median portion receives a greater supply than the lateral. We find in no other disease the same condition of inflammation, except perhaps in hydrophobia which closely resembles tetanus. It is also like tetanus a disturbance produced by the hyperæmic condition of the products of inflammation. In acute myelitis we find a similar condition of increased blood-supply and the destruction similar to tetanus. If a differential diagnosis is to be made it must be looked for more in the direction of pathology than any other.

Dr. Zenner said that a disease which simulated tetanus in some instances and which was not well known was tetany. The disease occurs with greater frequency in some places than others. It may be that it does not occur in this country, at least it was not mentioned in some American text-books. Possibly the disease is sometimes passed by unrecognized. The speaker had seen a number of cases in Vienna, which was his excuse for mentioning it here. The disease had been made known to us by the investigations of such men as Trousseau, Kussmaul and Erb. Tetany simulates tetanus so far as the spasmodic contractions are concerned. In the majority of instances they occur only in the extremities, chiefly the hand, in which the thumb is adducted and the fingers flexed one over the other, giving to it the appearance known as the obstetrician's hand; the arms are drawn across the chest, the knees and feet extended and the feet and toes flexed. In the majority of instances it is the muscles of the extremities that are involved, but sometimes, and he had seen such a case, all the muscles of the body are contracted as trismus, opisthotonus, etc., presenting the exact picture of tetanus. A distinguishing feature is the duration of the attacks which last in tetany only a few minutes, in severe cases one or two hours. The attacks come on at different periods, in so many hours, days, weeks and months; the duration of the interval is indefinite. Half a dozen attacks may occur in six days and then they may not occur again in as many months and not return again for years. Trousseau found that after pressing a minute or two on the nerves or arteries of the arm the muscles assumed that spasmodic condition peculiar to tetanus—the obstetric hand, and that this lasted as long as the pressure continued. In one instance the speaker had seen the same phenomena produced by pressure over the superior cervical ganglion and even by pinching the surface of the extremities.

Another peculiarity is exaggeration of electric irritability in tetany.

The third characteristic symptom of tetany is the mechanical irritation of the facial nerve—so that when it is struck anywhere it produces contractions of those muscles that are supplied by it.

As regards the pathology of the disease there was little to be said. So far as he knew only two post-mortems had been reported. In the first there was negative results; the second was a case seen by himself and referred to above. In this there were slight hemorrhages in the cord, evidently secondary. This case has since been reported by Wise in *Volkmann's Klinische Sammlungen*. Schultze believes the disease is peripheral, not in the cord. He judges this from the electrical and mechanical irritability of the nerves that the tendon reflexes were not exaggerated. But this opinion cannot be considered as conclusive.

Dr. Whittaker thought it still a great question if tetany really exists. There are subvarieties of other diseases of the nervous system, as hysteria, that present the symptoms ascribed to tetany. Trousseau's phenomena is simply a play of the facial muscles.

It is interesting to know that certain nervous diseases exist, but it is a question whether tetany really does exist.

Dr. Zenner answered that the mechanical irritability of the seventh nerve was first observed by Chowstek. What is called Trousseau's phenomenon was first observed by Trousseau in an accidental manner. Phlebotomy was performed upon a patient affected with tetany, but during a great interval. Pressure over the vessels caused the characteristic tonic contractions on the corresponding arm.

Dr. Ravogli called special attention to the influence of climate in the production of tetanus. This element is of the greatest interest, especially to the military surgeon, as it may enable him to adopt means for the prevention of such a terrible disease. If the therapy has until to-day been unable to help the sufferers, the prophylaxis at least may find the way of preventing this disease.

Tetanus was very well known to physicians from the most ancient times, as we find in the books of Hippocrates, Celsus, Avicenna, etc., and in every age the rapid change of temperature from warmth to cold, was admitted to be a predisposing cause of it; especially the presence of humid cold. In warm regions there is a great disproportion between the temperature of the day and the night; so that while the heat is insupportable during the day the nights are so cool that an overcoat is necessary.

According to P. Frank the regions where tetanus is most frequent are the seacoasts subject to the wind. Dazille says that he observed tetanus very frequently in Italy, seldom in Germany and only exceptionally in Russia.

It is well known that a rheumatic cause excites spontaneous tetanus. Dr. Meyer, in Pamictnik-towarzistwa Med. Wilenskiego, mentions two cases of spontaneous tetanus in two brothers, both farmers, who went in a strange wood to get fuel, but surprised by the guardians ran away. In full perspiration they were obliged to cross a river, and after running were attacked with emprosthotonus.

The speaker himself attended a patient with opisthotonus. A gentleman in high life, after good eating and good drinking and in full perspiration, sprang in sport under a fountain of very cold water. He was taken home with symptoms of terrible opisthotonus.

Now if the rapid change of temperature in a very healthy man is able to produce this disease, how much more reasonable to suppose that it will act as a predisposing cause in a wounded man? Roux and Larrey hold as a principal agent of tetanus the oscillations of temperature rather than the nature of the wound. In the French-Egyptian campaign cases of tetanus were very frequently observed. After the riot of Cairo many wounded soldiers were placed in the hospital in the city in very unhealthy conditions, but afraid of new riots were removed in the Roda Island, where a great many were attacked with tetanus followed by fatal results.

He observed that especially the wounds of the nerves and of the joints were followed by tetanus, but the principal predisposing cause was the change of temperature in the places inundated by the Nile or on the seashore.

After the battle of the Pyramids, among the wounded, five cases of tetanus developed on account of the humidity and the coolness of the night. In the hospital of Birket-el-fil seven cases of tetanus appeared when the walls of the hospital were under the water from the overflowing of the Nile.

Many other cases of tetanus are reported by Larrey in the persons of generals and officers after having been slightly wounded remaining the whole night exposed to the cold and dampness.

Poggio (Trattamiento de las heridas par ismus de fuego segun la pratica de los medicos milit, españoles, Madrid, 1872), sustains the same opinion. The Spaniards during the expedition of Morocco, among 3,920 wounded in the hospital of the Spanish coast had only four cases of tetanus, whilst on the African territory they had one case to every 56 wounded.

In the report of the Medical History of the British Armies in the Iberian Peninsula in 1811-12, by Sir James MacGregor, we read that the campaign was opened in the north of Portugal during a very inclement season. Snow fell occasionally in December, January and February; the ground was usually covered with hoar-frost. The sick and wounded French and Portugese, as well as British, were moved to Castanheisa Celorico, and finally to Casmbra, a distance of more than forty leagues from Ciudad Rodrigo. The number of wounded was very considerable, a great many of them arrived with their extremities frost bitten and tetanus was not unfrequent.

Tetanus was prevalent in August after the battle of Salamanca and some cases of it appeared at the seige of Burgos.

In November, in very severe weather, after the battles Vittoria and Pampeluna, tetanus was more prevalent than it had hitherto been in the Peninsula. Those thus attacked amounted to several hundreds and there were very few where this disease had made any progress that the remedies seemed to have any influence at all.

The conditions of the army were very unfavorable; the enemy was pursuing incessantly, the soldiers were obliged to sleep in the open air exposed to continuous rain. The wounded remained a long time on the field of battle, and when helped it was necessary to move them a distance of forty or fifty miles before finding a hospital.

In the Medical and Surgical History of the War of the Rebellion by Surgeon-General Barnes five cases of tetanus are reported after gunshot wounds of the scalp. In every instance the invasion of this complication was ascribed to exposure to dampness with sudden depression of temperature of the atmosphere.

After the battle of Prague several hundreds of wounded died from tetanus. In the campaign of the Crimea the English troops lost 29 wounded from tetanus and the Russians, according to Pirogoff, only five. In the Italian War of Independence the cases of tetanus were very rare; after Solferino 1 to 1,100, in Milan and Bresia 1 to 1,315.

The conditions of the armies in Italy were very good and the wounded were easily taken care of and transported to hospitals, as the towns are very near to each other.

After the battle of Rome the speaker was stationed in the Hospital de Consolazione, where ninety-six wounded were brought. The wounded were brought into the hospital and attended on the same morning of the battle and no case of tetanus appeared among them.

A few years after, in the same hospital, the speaker attended three cases of tetanus developed at the same time, in one of which he had a good result. A boy was first attacked by tetanus seven days after a lacerated wound of the hand. The second was another young man, lying near the bed of the first, from a complicated fracture of the leg, who recovered. A third was a man who had had a sarcoma of the shoulder. The tumor was removed and the wound healed readily. It was perhaps all cicatrized and the patient went to take a walk in the garden adjoining the hospital. It was a very cold day and the patient came back cold and chilly. The same night tetanus appeared with a fatal result.

All these cases show to us the severity of climate as a predisposing cause of tetanus.

He would not now discuss the question whether a peculiar virus was the cause of this disease or not; he would limit himself to the consideration of dampness and depression of temperature as one of the factors causing tetanus. This point has a great bearing on military surgery, in order to obtain as regular and speedy a transportation of the wounded as possible. Another factor of some moment is the construction of the barracks. These being constructed of awning tents and slight frame buildings become very hot during the daytime and cool off rapidly during the night by the fall of temperature. On this account this system of portable hospitals is not to be recommended for tropical climes.

Dr. Conner remarked that he was glad that he introduced the subject of tetanus for discussion, as it had proved very interesting to him. After the pathology, symptomatology, differential diagnosis, and the influence of climate had been severally well brought out by different speakers, it remained yet to consider the treatment of tetanus. It is a sad fact that, though not all, most cases of tetanus are fatal. There is yet to be found a remedy that will cure it. Every author comes to the conclusion that neither one thing nor another will prevent the fatality, There can be no question of the influence of climate; neither hot nor cold weather produces it, but it is apt to occur in changeable weather as observed by Larrey in several campaigns. There is no doubt that every military surgeon has witnessed the disease under conditions in which it was preventable. The main thing is to prevent these conditions and remove such a state in wounds that may cause the disease. While it is well recognized that tetanus is a disturbance of the nervous system, it is by no means established that this is primary. It matters not, therefore, whether it depends on micro-organisms or not; preventive treatment must consist in such measures as will remove anything that may cause its development within or its introduction from without the body.

The fact that tetanus is amenable to any form of treatment, provided it be of such a nature as to keep the patient quiet for some time, proves that recovery, if it occurs, is not due to the particular remedy used, but to the natural tendency of the disease to wear itself out if it keeps the patient alive long enough. If tetanus has become chronic, any quiet form of treatment will be satisfactory; if it is acute we may employ any remedy we please, the result is almost uniformly death. Opium and other narcotics will not cure it. If the patient gets well, it will be due to the length of time that has elapsed. In like manner, coniin, cannabis indica, etc., or powerful depressants, as tobacco, will not be a sure cure. The first patient that the speaker had seen recover was under the use of tobacco; but here the patient was subject to tetanus twelve days before tobacco was administered. Recoveries have also been reported from the use of outside influence as cold and heat, particularly in the form of baths. High heat may prevent the muscular spasm, also extreme cold may do the same, and nevertheless patients have been taken out dead from hot and cold baths; and yet an individual who had tetanus in the Peninsular war was nearly frozen, and the tetanus disappeared. The bromides have been used, however, with more success in the chronic than in the acute form. Chloral promises better results as it controls the spasm of strychnia tetanus. It is not antagonistic to strychnia in the sense that one poison counteracts the other, but it simply obtunds the nervous system for a number of days before the strychnia is eliminated. Chloral and ether relieve the spasms, but hasten death. Woorara has been highly praised as a cure in some cases, but others have died where it was used; so also the extract of calabar and its alkaloids, physostigmine and eserine are said to have caused cures. It is, therefore, all the same what is the treatment; there is no specific against tetanus. The speaker must confess that he never saw an acute case recover; he tried everything that has been mentioned except woorara. No one patient will die who lives thirty days, and yet in one instance where life was prolonged to the thirty-sixth or thirty-seventh day the boy died. All that can be done is to remove the irritation as much as possible, and then keep the patient perfectly quiet. He must not be visited, nor be subject to bright light or noises. If there is any possibility of recovery it is only by the maintenance of absolute rest. Surgery has been called to aid and claims to affect a cure, and, indeed, is followed sometimes by favorable results, as for instance by cutting off the affected nerve from its communication with the spinal cord. Death, however, has also followed this operation. The speaker had exsected as much as two inches of a nerve, and yet life was not prolonged. One of the gentleman spoke in such terms of praise of nerve stretching. The speaker was extremely sceptical in this regard. After irritation has once set in, there is no advantage in cutting off the communicability of the nerve from the wound with the cord, unless it be to prevent the access of micro-organisms; but as nerve stretching can not affect this separation, or that of any other poison, the speaker could not look upon it with favor. So also amputation of the affected limb is said to be a specific against tetanus, and no doubt good results have been attained, but out of 326 or 327 cases thus treated in our civil war only four recovered, two from amputation, and two from the use of opium. Generally it only hastens death. The speaker once amputated for tetanus following a frost bite, and he only hastened death. There again arises the question, when would you amputate? No man would cut off an extremity after tetanus has developed, and still less so before it has developed. When once tetanus has become fully developed, it will prove fatal unless recovery takes place from spontaneous elimination of the poison by being tided over for a number of days. A known remedy would be a great blessing, but it has not been given as yet. It is possible that after the further advances made in its pathology this may give us something on which to base the therapy. If it be proven that the disease depends on germs we may arrive at the cure, but if nothing further is learned than that, the condition of the cord is similar to that in other diseases, we will still be left in the dark as to the treatment.

Dr. Ransohoff said that the previous speaker broke the rod over everything in the treatment of tetanus. Now, there was one thing that he (R.) liked especially to speak of, and that was nerve-stretching. He had a typical case of acute tetanus after an injury 4th of July last received in the palm of the hand; he stretched the ulnar and median nerves and gave the patient much relief. Williams collected a large number of cases where nerve-stretching was resorted to, and twenty-five to thirty per cent recovered; it is not, therefore just to say they merely got well of their own accord. As regards the pathology he could not believe that tetanus depended on micro-organisms, for in many cases the pressure of a gross foreign body on a nerve had set up the disease, and its removal caused the tetanus to cease. Another point that militates against micro-organism is the occurrence of subcutaneous tetanus when there is no break in the skin for these germs to enter. In fact, he would like to know if the previous speaker would admit such a form of tetanus.

Dr. Conner replied that he had necer seen tetanus follow a subcutaneous injury. However, it may follow and yet not necessarily be due to nervous influence, for septicemia may occur in the unbroken skin. It is, in fact, a great question, if so-called subcutaneous injuries are in reality subcutaneous. A whip lash may produce tetanus seemingly resulting from an unbroken skin, but the end of the whip is a brad that struck the skin causing a minute break. So, also, is the case mentioned by one of the speakers, where tetanus resulted after a fall, there might have been a small break in the skin.

In reply to the criticisms on his remarks in the treatment of tetanus, he would state that he did not say nothing did any good, but that in the majority of instances where cases recovered they were chronic, and have been tided over from five to seven days after the commencement of the attacks and were therefore better let alone. To show that something may be done in acute cases he would mention the example of a boy who had been shot in the hand with a toy-pistol. The wad was removed and the patient's hand put under hot water day and night; it was never out of hot water and cicatrized kindly. All these injuries ought to be constantly kept under hot water.

Dr. Reamy said that although the discussion had been very interesting, he came to the conclusion that there was not a solitary new fact presented.

There was no additional light thrown on the pathology—no positive remedy offered for acute tetanus. The last treatment—that by immersion in hot water—was the only contribution to the subject.

Selections.

MEDICINE.

A Case of Bright's Disease Without Albuminuria till Within Eight Days of Death.—Absence of albumen from the urine in cases of advanced Bright's disease is, as is well known, not uncommon; and cases have even been recorded where no albumen was observed during life. It is not common, however, for the urine of a patient, long under exact observation in hospital, to show no existence of disease by the ordinary tests till eight days before death, and yet for the *post mortem* examination to show that the kidneys were so atrophied that only a seventh part of their substance was functional. The patient, a female, aged forty-eight, was for over three months in the Breslau Hospital, suffering from general dropsy and bronchitis. Mitral insufficiency, with hypertrophy of the heart, was diagnosed, but was not considered enough to account for the symptoms. Signs of kidney affection were carefully looked for, but not found, the urine being of normal color and quantity, acid, 1020, without albumen or abnormal constituents. Eight days before death, the urine diminished in quantity, in color it was clear, brown-red, of specific gravily 1,033-1,025. It contained albumen, hyaline casts, and white and red blood-corpuscles in moderate number. Dr. Schuchardt records the *post mortem* appearance as observed by himself (*Berl. Klin. Woch.*, 1882, No. 41). There were complete atrophy of the right kidney (seventy-six grains), and of great part of the left, with interstitial and parenchymatous nephritis of the rest of the left kidney (635 grains); dilatation of the heart with hypertrophy of the left ventricle and fatty degeneration of the heart-muscle; chronic endarteritis of the aorta and other large arteries, including the renals; pleurisy; and lobular pneumonia. Microscopic examination showed the usual appearances of granular contracted kidney, only a small part of the left kidney showing comparatively healthy urinary tubules and glomeruli. There was no trace whatever of recent inflammation in the right kidney or either in great part of the left, but in the remaining part of the left kidney the interstitial tissue was thickly infiltrated with small cells, and the epithelium was in a condition of fatty degeneration. Dr. Schuchardt considers that this case strongly supports Heidenhain's theory as to the action of the different portions of the kidney in the separation of the urine from the blood. Heidenhain asserts, and gives experiments to prove, that the separation of the water and salts of the urine occurs in the glomeruli, while the specific urinary constituents are secreted by the action of the epithelium of the urinary tubules. He explains the absence of albumen in healthy urine, although secreted from an albuminous fluid by the presence of the complete epithelial covering of the glomeruli. In the fact that a seventh part of the normal renal substance could secrete the normal amount of urine indistinguishable from healthy urine, Dr. Schuchardt sees a proof that the separation of urine is not a simple filtration, as Ludwig holds, but a secretion by a tissue, part of which can, in compensation, take on increased function. He points out, also that the albumen appeared in the urine eight days before death, coincidently with an alteration in the nutrition, and, therefore, if the structure of the epithelium covering the glomeruli of the left kidney.—*London Medical Record.*

Disappearance and the Localization of the Knee-Reflex.—Dr. Westphal gives, the *Verhandl. de. Berl. Med. Gesellsch.*, Bandxii, p. 47, a very interesting paper on this subject. The paper is too closely reasoned to be abstracted, but the main questions which are intended to be settled by the case which he gives, are (1) in cases where the loss of the knee-reflex is the first symptom of tabes, is there already anatomical change in the lumbar posterior columns, and (2) if so, where; that is, in the postero-external column or in the postero-median column? As Dr. Westphal points out, an answer to these questions need not be looked for in cases of advanced tabes, where the sclerosis has extended widely beyond its first limits before it causes death. The case detailed by him, however, showed the disease confined to the postero-external column, and in other respects seems to answer as an *experimentum crucis* to prove that the lesion in tabes which causes the disappearance of this reflex, is in the postero-latteral column or root-zone of Charcot. Professor Westphal considers that the knee-reflex ought to be tried in all cases of obscure nervous symptoms, *e.g.*, in hypochondria, as he believes it is frequently, by a long time, the first symptom of tabes; and if he finds it absent, without other symptoms of tabes being present, he takes it as a sign of latent tabes, which may, and most probably will, be developed at a future time. The reflex is difficult to produce in those who have short thick legs, and those who have short patellar tendons, but Dr. Westphal says he has never seen it absent in an undoubtedly healthy individual.—*London Medical Record.*

Report of Thirty-five Cases of Tabes Dorsalis.—Out of this report we will mention the following points as being of particular interest. All of the cases observed were males, and between the age of twenty-five and fifty-nine. The largest percentage of cases occurred between thirty-six and forty-five years. In five cases, or in 14 3 per cent. there was a distinct hereditary disposition proven. In four cases (or 11.4 per cent.) there was absolutely no cause to be found for the disease, proving plainly certain individual tendencies or etiological conditions that we know very little about as yet.

Heart disease (viz. insufficiency of the aortic valves according to Berger Rosenbeck) as a concomitant cannot be substantiated by the author. With regard to the recently much ventilated question of the connection between tabes and syphilis, R. found that in the history of these thirty-five cases lues occurred eight times. Soft chancre was admitted in eight cases, among the eight lues patients there were only two instances in which lues was the only apparent cause for the disease, while in the remaining six cases were found the other known causes of the disease. The patellar reflex was more or less intact in three instances, but in no case was it to be found in a normal condition, either this phenomena was absent on one side or was weakened on one or both sides.

The mechanical excitability of the quadriceps cruris was found intact in all cases (verifying the observations made by "Erb"). In one instance it was found somewhat diminished on one side, while in three cases there was a slight increase observed on both sides.

The degree of ataxy does not seem to be influenced by the severity or duration of the disease. Gastric disturbances were not noticed, but in a number of patients there was complaint made of a colicky pain in the abdomen, vaso-motor disturbances similar to the case described by Remak (Berl. Kl. Wochenschrift, 1880 82) were observed twice by the author, redress of the face after the ingestion of gum and salty food, intense perspiration, ephridrosis unilateralis.—*Deutsche Med. Zeitung.* C.W.T

Galvano-Puncture of the Prostate.—Dr. Bredert (Hageman) reported five cases, mostly senile hypertrophies of the prostate, in which either one or both lobes of the gland were enlarged; and in all of these, the catheterization was impossible or could only be performed with great difficulty (by bending the instrument). In analogy with the employment of electrolysis to other tumors, the doctor tried it in these cases with very good result in diminishing the size of the gland. He used for this purpose a needle electrode, insulated except at its point, which he pushed into the enlarged gland. This was connected with the negative pole (cathode) of the battery while the positive was applied to the chest or abdomen. The diminution of the organ took place with astonishing rapidity; in one case after the third application.—*Berlin. Klin. Wochenschrift*, No. 43. L.J.K.

The Etiology of Lupus Vulgaris.—(From clinic of Prof. Pick, of Prag, *Vierteljahrschr. f. Derm. in Syph.*, 1882, S. 31.)

Of 209 cases of lupus, collected at the clinic of Prague, Dr. R. W. Raudnitz observes that 37.3 per cent. occurred in the male sex, and 62.7 per cent. in the female sex; and that the most frequent period at which the primary eruption made its appearance was between the tenth and fifteenth year. It attacked the nose, the inner angle of the eye and the lips, as its primary seat, in 38.2 per cent.; the cheek in 27 4 per cent.; and the body and extremities in 24 per cent. He noticed that in twelve cases the primary eruption was preceded by a previous traumatic injury to the tissue. An hereditary taint of tuberculosis was only observed in ten to fifteen per cent. of the cases.—*Centralblatt Medicin. Wissenschaften.* No. 38. L.J.K.

OPTHALMOLOGY—OTOLOGY.

The Influence of the Trigeminus Nerve on the Organs of Hearing.—Dr. Kirchner.—Author in his experiments on the fifth nerve attempts to show that diseases of the ears may be due to injuries of the branches of the trigeminus. After referring to the experiments of Gellé, Hagen, and Berthold, on the vassomotor disturbances of the tympanic cavity, he turns his attention to the third branch of the trigeminus, because filaments of this nerve are distributed to the pharynx and also inervate the tensor bel palate, probably the most important of the tubal muscles.

K. demonstrates that diseases of the pharynx have an etiological relation to diseases or disturbances of the drum head on account of the peculiar nerve distribution. With the assistance of Dr. Ashenbrandt, the author made a number of experiments on animals, laying bare the third branch of the fifth nerve in such a way as to expose the tympanic cavity at the same time; so thus direct observations could be made. The condition of the mucous membrane with regard to its vascular supply, and the secretion of mucus, could be accurately studied, while the nerve itself was being cut, later on when stimulated by electricity. When a weak current was used for about ten seconds, the delicate network of vessels in the tympanic mucous membrane, could be seen to enlarge, and remain distinctly visible for a few seconds, even after electrization had been discontinued. After the application of a strove current, for a longer time, there was a distincting congestion of the cappillary network, the color of the mucous membrane increased to a livid red, which disappeared only after a considerable length of time. Besides these changes, K. states when a very strong current was used, a thin watery exudation made its appearance on the mucous membrane of the tympanic cavity; and when the irritation ceased, the exudation disappeared. When the fifth nerve was injured by pulling out its root near the base of the skull, the tympanic mucous membrane became swollen and secreted a muco-purulent matter in the course of a few weeks after the injury. These experiences may be explained in the following manner: Irritation of the third branch of the fifth nerve might excite the nerve fibres controlling secretion, by a reflex action, or the strong injective of the cappillary system that occurs at the same time causes an increase of secretion, or the otic ganglion may be affected through the nerve filaments running from the tympanic cavity to the ganglion, and in this manner influence the secretory as well as the circulatory condition. Aside from the scientific value of these experiments, they may be of practical benefit to the physician. enabling him to treat more successfully a disease of the ear when arising after on injury to the trigeminus.—*Deutsche Med. Zeitung.* C.W.T.

OBSERVATIONS ON THE USE OF IODOFORM IN OPHTHALMOLOGY. — Deutschman.—In the eye clinic at Göttingen Dr. Leber has been using iodoform systematically for more than a year. The application is made in two ways. either in the form of a powder, which is dusted into the eye the same as calomel is applied, by means of a little brush, or else in the form of an ointment, vaseline as a basis, in the proportion of 1 to 10. The point to be remembered is to use only small quantities, since the conjunctiva will tolerate but small doses. Larger quantities of iodoform will produce a condition of the conjunctiva similar to atropia conjunctivitis. In some individuals there is an iodoform idiosyncrasy contraindicating even the smallest doses, but this is very rare.

Deutschman mentions the following conditions as indications for the use of this remedy:

In cases where the eyelids and even the ball have been injured, including wounds made by the surgeon. The author has not used it after cataract operations.

2. In infected wounds iodoform shows its full antiseptic properties.

3. In ulcers, cornea senpens, author has obtained remarkable results, but the remedy must be discontinued as soon as the bottom of the ulcer begins to fill in. In most of the other diseases of the eye the author cannot recommend its use.

Schindler has used iodoform in purulent dacryocystitis, where all other remedies were of no avail, but after the use of this remedy the case was rapidly cured.—*Deutsche Med. Zeit.* C.W.T.

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Cincinnati, December 9th, 1882.

Bibliography.

HEITZMANN'S "MICROSCOPICAL MORPHOLOGY OF THE HUMAN BODY IN HEALTH AND DISEASE."[1]

For several years we have been hearing announced in our magazines the peculiar views of Dr. Heitzmann and now we have them all grouped together in the volume before us. In the first place we note an absence of the old illustrations and diagrams of histological tissues which have become as familiar friends by their frequent repetition. That the cell-theory is utterly false is the proposition which our author endeavors to demonstrate, and his attack on this theory is vigorous and self-reliant. If he fails in convincing his readers of the truth of the biaplasson-theory, he will not fail in proving to them that he has done a great deal of original work, some of which will doubtless add to the sum of our knowledge on this subject. In his preface he states that "the United States of America are [is] ahead whenever new ideas of practical importance are to be acknowledged." Whether the princely friend (a veritable Mæcenas) by whom he has been so "magnanimously supported," has produced so favorable an impression of Americans, of course we can only conjecture from the context.

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[1] Microscopical Morphology of the Human Body in Health and Disease. By C. Heitzmann, M.D., Late Lecturer on Morbid Anatomy at the University in Vienna, Austria. With 380 original engravings. New York: J.H. Vail & Co., 21 Astor Place, 1882.

The first chapter is devoted to methods of preparing, staining, mounting, etc., tissues for microscopical examination. This chapter, while containing some good hints, is decidedly cloudy and unsatisfactory.

The second chapter is a reprint of an article which first appeared in the *New York Medical Journal*, five years ago, on the "General Properties of Living Matter." He says: "The physiological properties (*i.e.*, of living matter) are mainly two: motion and reproduction." "No living matter is ever a fluid, but always either a solid or a jelly-like, semi-fluid substance." Hence, he reasons that Schwann's idea of the construction of a cell cannot be correct.

In the next chapter he discusses living matter in "Protoplasm." "The protoplasm is not structureless, but has a reticular structure." * * "*The Nucleolus, the Nucleus, and the Granules, with their connecting Filaments, are the Living, or Contracted Matter Proper.* This solid matter is suspended in a non-living, not contractile liquid."

It is in the fourth chapter, on "Development of Living Matter," that Dr. Heitzmann's peculiar views are most prominently expressed. This chapter (like the major part of the book) has appeared in print before.

He substitutes the terms "proplasson" and "plastid" for "protoplasm" and "protoplasmic body." * * * "About one year ago I announced that the colorless blood-corpuscles also demonstrate striking differences as to their minute structure, according to the general constitution. I said that the colorless blood-corpuscles are coarsely granular and slow in their amœboid motions under the microscope, if taken from healthy, vigorous, strong persons; on the contrary, they are pale gray, finely granular—viz., poorly provided with living matter, in broken-down or phthisical individuals. I expressed my hopes that at some future time practical use might be made of these differences. To-day my hopes have turned, after three years' earnest study, into accomplished facts. * * * I have arrived at a point of perfection which allows me to tell the constitution of a person without knowing anything of his former life. * * * Life insurance should be based upon microscopical examination, as well as on percussion and auscultation. Marriages should be allowed, in doubtful cases, only upon the permit of a reliable microscopist." *Mirabile dictu!* "The bioplasson is one uninterrupted mass throughout the body, and is connected, from the top of the head to the heels (Why omit the toes?), in what we call tissues."

His definition of man is rather unique: "Man is a complex amœba with permanent protrusions, the extremities, with a wonderfully complicated division of labor of the groups of the living matter."

He claims that blood-corpuscles when examined under a high power are seen to be reticular in structure, as in all bioplasson.

In the chapter on tissues in general, tissues are defined as "complex formations of living matter in a network arrangement." * * * "According to this view there are but four elementary tissues in the animal body. All these are interconnected and built upon one and the same plan." These four tissues are, *connective*, *muscle*, *nerve*, and *epithelial*.

The author says that in no tissues whatever do "cells" exist as isolated individuals.

He has some peculiar views in regard to inflammation, which he sums up as follows: Every tissue, by the inflammatory process, is reduced to the condition in which it existed in the first stage of its development—that is to say, to a condition corresponding to its embryonal state.

The volume is printed in good style, and the illustrations are very clear.

It is our opinion that the author attaches more importance to many of his so-called discoveries than will the majority of microscopists.

BARTHOLOW'S "TREATISE ON THE PRACTICE OF MEDICINE."[1]

The first edition of this work by Professor Bartholow was issued about two years ago, a second edition called for, issued and exhausted, and now we have the third at the end of two years. This indicates an acceptance on the part of the profession of the teachings promulgated by the author and places the work in the catalogue of standard text-books.

"PHYSICIANS' VISITING LIST AND DIARY FOR 1883."[2]

The arrangement of this list is simple and one of the best of this class of books.

TYPHOID FEVER is prevailing to an alarming extent in Pittsburg. This disease is more than usually prevalent and in malignant form in many parts of this country and in Europe. With this general tendency to enteric disease we may anticipate a visitation from cholera before many months.

ACADEMY OF MEDICINE.—Dr. Geo. E. Walton will read an essay on "The Therapeutic Value of the Florida Climate," on next Monday, the 11th inst.

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[1] By Roberts Bartholow, M.A., M.D., LL.D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College of Philadelphia. Third edition, revised and enlarged. New York: D. Appleton & Co., 1882. For sale by Robert Clarke & Co. Price, $5.00.

[2] Geo. H. Dietz & Co., Louisville, Ky.

Original Communications.

NOTES ON THE CLIMATE OF COLORADA AND NEW MEXICO.

By Dan. Millikin, M.D., Hamilton, O.

During the last summer it was the fortune of the writer to travel extensively through Colorado and New Mexico, making a careful study of the therapeutic powers of the climate of this region. It is partly in fulfillment of a promise to the Lancet and Clinic that the results of that study are here set forth and partly to answer conveniently the many questions with which the traveler yonder is assaulted on his return home.

Going westward from Kansas City the traveler, engrossed with the pleasures or perhaps the fatigues of travel, is not aware of any great change in climatic conditions until he draws near the borders of Colorado. At or near this point it is common for one who comes from a lower level to perceive a peculiar sensation in the chest. It is not easy to describe this sensation, lying, as it does, on the border land between pleasure and pain. It seems to be in some manner connected with the greater bulk of air required, and the increased depth and frequency of the respiratory movement. At first the traveler becomes aware that he is compelled to breathe deeply, but afterward he feels that it is a pleasure to fill the chest, and the idea of compulsion is gone. The exhileration and buoyancy of spirits that is sure to come with this deep and easy respiration is a delight that wears well, and is remembered with regret when one returns to the lower and damper levels of the Mississippi Valley.

Higher up on the shoulders of the Rocky Mountains, especially when brisk exercise is taken, the increased demand for air produces a sensation of positive distress, but it is remarkable how quickly there comes an adjustment of breathing power, and distress vanishes. There are probably three influences at work to bring about this adjustment or acclimatization. 1. The thirst for oxygen becomes somewhat obtunded as it is with athletes and runners and pearl-divers. 2. Air-cells which are commonly idle in a denser atmosphere are all expanded and at work in this thinner air. 3. M. Paul Bert has recently announced that the blood of men and other animals in regions of low barometric pressure has an extraordinary capacity for oxygen, and that this exalted capacity is due to the greater richness of their blood in hæmoglobin. Thus it is that at higher altitudes, while the increased containing and carrying power of the blood tends to prevent any deficiency of oxygen, the organism presently learns to endure a transient deficiency more patiently. There is reason to believe also that moisture dissolved in the air we inhale, hinders the osmosis of carbonic acid and other gaseous excrement, and hence that a smaller amount of oxygen in a dry atmosphere may be able to accomplish the work which a greater amount would accomplish in moist air. It is worth remembering that, at 5,000 feet, a given bulk of air has in it fully four-fifths as much oxygen as it has at the sea-level.

While studying climatology for my own species, I made some inquiries as to the breathing-powers of horses in this rare atmosphere. Nearly all driving horses are imported from the east. An intelligent liveryman told me that "for a week or two" they need to be driven very carefully, after which he considered them acclimated. This informant lived at Manitou at the time of the first wild rush to the Leadville mines, and, as the highway suddenly rises from a level of 6,370 feet at that point, he had frequent opportunities to study the effects of abuse and haste upon "green" horses. He had witnessed the death of a great many fine animals and told me that he could never nurse an overdriven horse into perfect health. I do not think that the time named for acclimatization is too short. Horses brought from the east for racing purposes are found to trot at Denver within four or five seconds of their best time. It is an interesting fact also that a very fast trotting stallion, "Big Ike," who was bred in Colorado and who has made some brilliant performances at home, has proved a failure this last summer trotting in the grand circuit in the Mississippi Valley and on the Atlantic slope.

The dyspnœa experienced by persons of good health and good physique is transient at five or six thousand feet. The distress of persons whose lungs are congenitally small or are contracted by disease begins at lower levels, lasts longer and is reproduced by trifling exercise. Invalids should look upon any notable dyspnœa as a threat of impending danger, and as a fair warning against haste and high altitudes.

The sudden transition to the rare atmosphere of Denver (5150 feet), and still more to that of Santa Fé (7050 feet) is a great evil. If there were no steam locomotion almost any invalid could reach these levels with safety. The old sort of travel, in wagon or in the saddle, consumed weeks and months in slowly dragging over the long slope of the Plains, and permitted the nice and gradual adjustment of sick lungs to the work that was inevitable. Nowadays, on luxurious trains it is much easier to ride than to stop, and, riding so rapidly, the reckless invalid is lifted three thousand feet in a day.

The therapy of this wonderful, dry, light air is not founded upon the principle of rest for diseased organs. Recognizing that outside the coffin there is no rest possible for the lungs, the invalid should go to Colorado or New Mexico expecting nothing else than that his lungs will be aroused to their highest activity. In this elevated region each air-cell, as well as each pathological cavity, is treated as Prof. J. R. Wood treated amputation wounds: they are stretched wide open and exposed as much as possible to the air. Morbid secretions are forbidden to stagnate, and are partly dried up. Since Pasteur has declared that "it is the oxygen of the air which weakens or extinguishes germ virulence," we may understand why consumptives do not die of septicæmia on the Plains as they do in Cincinnati.

Sudden dilatation of air-cells and air-passages is, of course, a source of danger. Passive capillary hemorrhage is invited, and is sometimes very troublesome. Large unsupported blood-vessels, traversing half-heated cavities, will sometimes give way with disastrous results. The climate of which I write has been brought into disrepute already by invalids who rush to its higher levels with inconsiderate haste, forgetting that it is unsafe to distend cavities or to do mechanical violence to lung-tissue that is half consolidated.

What has just been said, leads naturally to the inquiry: "*Can a very sick person reach Colorado or New Mexico with safety and comfort?*" Travelling on the Atchinson, Topeka and Santa Fé road I fell in with a number of invalids and must say that they were the most comfortable passengers aboard. On a roadbed so excellent and in luxurious coaches the invalid is as comfortable as anywhere, and has chances of amusement from the diversity of scene and the new faces about him. There are excellent eating-houses even on the most remote and barren portions of the Plains, and points of interest where one could stop in an emergency. It is to be regretted that there is no pleasant town at an altitude of three thousand feet or less, where an invalid could pause if his case required it, to allow his lungs to become accustomed to low barometric pressure. Somewhere between Larned and Dodge City there ought to be a pleasant wayside stopping-place and, doubtless there will be such in time. Were such a station provided, I should consider the southern route a perfect one, as it is now the best one for invalids going far west.

There are certain considerations which deter many persons from seeking health in the elevated region described in this article. I endeavored constantly to keep my mind free from prejudice and study these considerations carefully. The idea prevails that rheumatism is the scourge of the west. It is probably true that all diseases tend to assume the acute and sthenic type at high altitudes, and that rheumatism is no exception to the rule. This admitted, it is perfectly correct to say that rheumatism does not prevail in Colorado and New Mexico. Chronic rheumatism is positively rare.

Of pneumonia I learned that it was sometimes epidemic, and always malignant, at an altitude higher than 7000 feet. At 10,000 feet it is almost always sthenic, and fatal in seventy-two hours. At 4,000 or 5,000 feet it is hardly as common as in Ohio. Pneumonia is the grand bugaboo of persons who have not studied the climate in the climate, but the invalid has no need to invade the domain of the monster, and should not venture above 7,000 feet without the advice and consent of a local physician.

"Mountain Fever" is probably caused by small foci of malaria. There are those who believe it to be a specific fever, and there are those who hold it to be simply an irritative fever from non-acclimatization and poor elimination. The invalid who does not climb too high, nor pitch his tent in the damper valleys will probably have no mountain fever. Miners and prospectors cannot choose.

There is no doubt that much of the therapeutic power of the air of Colorado and New Mexico is due to its extreme dryness, of which one is curiously reminded many times in each day. In every cigar-case is seen a large wet sponge, without which it is said the cigars would warp themselves to destruction, or would burn like tinder. At Denver and Pueblo I often noticed neglected pieces of ice melting in the sun, but never melting so fast that the air could not lick up the moisture and keep the pavement dry. The stranger complains at once of dryness of the face, mouth, lips and conjunctivæ. After vigorous exercise has moistened the face with sweat there is observed a delicious sense of coolness and presently the face is dry again. Ink constantly gums on the pen, and written characters are dry almost before one can apply blotting-paper. At the hotels the napkins, though presented in that disgusting state of dampness common to hotel-napkins the world over, are presently crisp and dry, and as much may be said for towels. Houses, rooms, beds and garments are always dry, and the invalid need fear no colds nor shivers from dampness.

This region differs from many that are prescribed for consumptives in that it has a cool climate. It is cool, but not cold. The temperature at Denver is a little warmer than at Cincinnati; and wintering-places slightly warmer may be reached by going south. Such is the general influence of the mountains, however, that southern points are only slightly warmer than the northern; the isothermal lines run nearly north and south on the hither slope of the mountains; and mean temperature is determined far more by altitude than by latitude. Fair digestive and assimilative powers ought to go with the consumptive to this cool and stimulating climate. Without these powers I suppose the patient should seek a warmer, more sedative climate, near the sea-level, and, if possible, near the sea itself. Here waste would be diminished; temperature would be more easily maintained; and, without hope of cure, life would be spun out to the utmost.

There are few invalids rich enough or foolish enough to despise information as to the cost of living on the slopes of the Rockies. While Colorado and New Mexico are more nearly self-supporting than Florida, much of the provender that is eaten beyond the Plains is transported from Kansas City and other distant points. Living therefore cannot be very cheap. Prices in Denver are not cruelly extravagant, for this lovely little city draws conveniently on the markets of Kansas, Nebraska, Utah, California and Mexico. It is the great central distributing-point for a vast mining and grazing region, and abundance keeps down the prices of the necessaries of life.

Health and economy demand that the invalid "rough it" in summer. One can scarcely approach the mountains without finding timber, game, trout, brooks, abundant room and the purest air in the world. In such a spot an invalid may amuse himself out of doors while the sun shines, and sleep at night in a tent or hut at a cost far below the lowest estimate of living expenses at home. In Colorado, especially, one may not only be a hermit or an untrammeled savage, but, approaching the fashionable resorts where camping is the fashion, one may subject himself to the gentle fetters of etiquette and social enjoyment.

Ranche life is a smoother sort of "roughing it," well adapted to those who need company, or who are too feeble to endure the moderate fatigues of the camp. Boarding at the ranches is reputed very plain, very good and very cheap.

After so much rambling discourse on the merits and demerits of this climate I feel that I am still a long way from answering the question: "*Will it arrest consumption?*" The testimony in favor of cool, dry, elevated climates preponderates in Europe and America these later years. Says Dr. C. T. Williams, after a careful collation of 593 winters spent by 251 consumptives in foreign climates (*i.e.*, foreign to England): "Taking collectively all forms and degrees of phthisis, the dry climates are the most likely to arrest the disease. * * * As to the desirability of moist climates for consumptive patients, the evidence is decidedly against their use in the treatment of ordinary chronic phthisis. The addition of warmth only makes the damp tell more unfavorably." Fothergill, following the example of continental physicians, is sending scores of patients to Davos, one of the highest, sunniest, dryest, coolest Alpine regions, and orders them to remain through the five colder months. There is nothing distinctive about Davos that does not belong to Denver and the vast stretch of territory north and south. After laborious study, I am convinced that while our brisk climate has hastened the death of many cases of advanced phthisis it has arrested ten times as many cases in the earlier stages.

But I am asked, "*Will this climate cure consumption?*" I make two answers to the question. First, the way to cure consumption of any sort is to arrest it and give the patient a chance to recover. Following Flint in the belief that this frequently happens, even in unfavorable climates, I am sanguine that many cures will follow the residence of the patient and the *arrest* of his disease in a high, dry, sunny, ozonized climate. Second, I met many persons who had come to Colorado and New Mexico with damaged lungs and had recovered so perfectly and for so long a time as to believe themselves perfectly cured.

Is a continued residence necessary? The cure at Davos, so much advocated by continental and English physicians, lasts only through the four, five, or six coldest months. It is known as a "winter cure," and when the winter is gone the patients scatter to their homes. Guided by the enormous experience of European physicians, I think we may say that persons who are able to travel and to come again and again may take this matchless climate like a medicine, in repeated doses, and be not long exiled from home and friends.

ERRATA.—In the publication of a report of a "Fœtal Monstrosity," in the LANCET AND CLINIC, December 2d, Dr. T. W. Rankin is made to say that "the left eye was normal in appearance, but filled with cheese." It should say "the left eye was normal in appearance, but the right looked as though it had been enucleated and its socket filled with cheese."

SYPHILITIC IRITIS AND ITS COMPLICATIONS.

By S. C. AYRES, M.D., Cincinnati, Ohio.

There is no one disease which demands more attention from the practitioner than syphilis as it manifests itself in its numerous forms, combinations and complications. It spares no organ and no tissue, it respects neither the embryo unborn nor the aged bowed down with weight of years. It requires the shrewdness of a medical detective to ferret out and recognize its manifold phases. So tenacious of life is its virus that it even skips one generation to attack the second. It may truly be called the iniquity which is visited upon the third and fourth generations. Even when we are treating other diseases we are battling with this hydra-headed monster, and no sooner do we sever one head than another presents itself.

Syphilitic diseases of the eye generally come under the observation of the surgeon or practitioner before the specialist sees them, for the reason that they are among the secondary or tertiary manifestations. It is true that we now and then see a chancre of the conjunctiva, but it is so rare that even a specialist rarely meets one. The iris, choroid and retina are the parts more frequently involved. Syphilitic affections of the cornea are more common in the inherited form and are rarely if ever seen in the first or second stages.

It will be seen then that specific diseases of the eye cover a good deal of ground and for this evening we will have to confine ourselves to the iris.

The most common form of syphilitic disease of the eye is iritis. It is considered by some as a secondary and by others as a tertiary lesion. It more frequently follows ulceration of the throat, syphilitic eruptions of the skin and alopecia. It is sometimes simultaneous with these symptoms and again it appears much later.

The diagnosis of iritis is not difficult. The symptoms are pronounced enough and are easily recognized and yet it occasionally happens that the earlier stages are overlooked. The circumcorneal zone of injection, the discoloration and immobility of the iris, the lachrymation and absence of purulent or muco-purulent discharge, the pain in the temporal region, the tenderness of the eye to touch and the presence of other general symptoms which would point to a syphilitic origin are sufficient to guide one to a correct diagnosis.

We speak in a general way of three varieties of iritis, simple plastic, serous and parenchymatous or suppurative.

Plastic iritis may be specific or non-specific and the diagnosis depends on other general or local manifestations. The symptoms just mentioned may characterise either form.

In the serous variety there is discoloration of the iris, but instead of contraction we have dilatation of the pupil. There is also a tendency to increased intra-ocular tension and the anterior chamber appears much deeper than normal. The posterior surface of the cornea presents a stippled or punctate appearance, due to change in the membrane of Discmet. The aqueous becomes turbid and at times lymph particles are seen floating on it.

DeWecker says of this form: "Serous iritis produces, together with an increase in the depth of the anterior chamber, an alteration in the intra-ocular tension, which reveals some disturbance in the balance between secretion and excretion. At present it is not possible to say whether the alteration depends on an increase of secretion or on interference with excretion."

In plastic iritis there is an exudation of lymph which causes adhesions more or less extensive between the pupillary margin of the iris and the capsule of the lens. These adhesions are sometimes broad and at others only filliform. They are very often so firm as to resist the influence of the most powerful mydriatics. Now and then we see a case where the entire pupillary border is glued down to the lens capsule and we have a separation of the anterior from the posterior aqueous chamber. The result is that the eye becomes glaucomatous and, unless relieved by an iridectomy, will in time be lost. On this account the condition of the iris should be watched and the use of the mydriatic suspended at once if bulging of the iris is detected. The tension of the eyeball should also be tested with the fingers to determine whether there is any deviation from the normal standard. While we place so much dependence on the influence of atropine, there are certain conditions which contraindicate its use and these should be kept in mind.

The purulent or parenchymatous form of iritis is almost without exception specific in origin. The general symptoms very closely resemble those of plastic iritis but are more intense. The pain is generally very severe, especially at night. The aqueous becomes turbid and there is in the more severe cases a deposit of pus in the anterior chamber. The iris is very much discolored and presents a yellowish reflex from the exudation on its surface. Tortuous vessels and occasionally extravasations of blood are also seen on it.

The most striking and characteristic symptom of the specific form of iritis is the development of nodules or gummata on the iris. According to my observation they usually form on the periphery of the iris and close to the cornea. The presence of these nodules is afterwards marked by atrophy of the stroma of the iris. Under energetic treatment these gummata are absorbed.

A case of irritis may run through its various phases in three or four weeks and be dismissed as well, all inflammatory symptoms having subsided. There are occasionally synechiæ left which do not yield to atropine, but in other respects the eye is in a healthy condition. It is generally believed that the relapses, which patients suffer from, were due to the irritation transmitted by these synechiæ to the iris.

It is a pretty well established point that an iridectomy will prevent the relapses which are so apt to occur. It will not, however, prevent a hyelitis, nor a papillo-retinitis. These affections seem to be independent of the iritis, and the presence or absence of synechia to have nothing to do with their development.

Closure of the pupil is very likely in time to be followed by irido-choroiditis, diminished tension, degeneration of the vitreous, intra-ocular hemorrhages and total loss of vision. To prevent this an iridectomy should be made as early as practicable. In these cases it will be found that the iris is firmly adherent to the capsule of the lens. Plastic exudation has been so abundantly thrown out that it will be found impossible to remove a segment of the iris. Portions of it may be torn away piecemeal with the forceps but the pigment still remains adherent to the lens capsule. It is unfortunate that the operation should be so long delayed, for if done early, before this degeneration of the iris tissue has taken place, it is elastic and can be drawn out and a segment removed in a satisfactory manner. The firm adhesion of the iris to the lens capsule causes an obliteration of the posterior aqueous chamber and a consequent interference with the intra-ocular circulation. The result is an irido-choroiditis which is only liable to end fatally to sight.

Associated with iritis is quite frequently seen an inflammation of the optic disc and retina, described by DeWecker as papillo-retinitis. There is swelling of the disc and obscuration of the vessels from exudation. The swelling does not extend far into the retina, not more than a few diameters of the optic disc. The media are clear and the rest of the fundus is seen to present a normal appearance.

Cloudiness of the vitreous (hyalitis) is sometimes seen where there is no evidence of any choroidal trouble. In a few cases the two conditions just mentioned are associated. The frequency of retinal complications with iritis is surprising. According to the observations of Schnabel, of Vienna, he found in sixteen cases of specific iritis only one normal retina, and in ten cases of non-specific iritis only three. These statements show two things, first, the frequency of retinal inflammation, and second, that non-specific iritis is almost as liable to retinal complications as the specific variety.

I cannot better illustrate the practical points in the diagnosis and treatment of iritis (specific and non-specific) and its complications than by giving you in detail three cases:

CASE I. IRITIS WITH EXCLUSION OF THE LEFT PUPIL.—IRIDECTOMY AND RESTORATION OF GOOD VISION.

C.F.G., 32, is suffering from an attack of acute iritis in both eyes, which, he says, came on three weeks ago. He denies any specific infection and has had no other constitutional symptoms indicative of syphilis. The right eye was injured fourteen years ago and has been amblyopic ever since.

In the right eye the pupil dilates moderately upward. The iris is but slightly, if at all, discolored, and the papillary area is clear.

In the left eye the iris is markedly discolored. The pupillary margin is adherent to the capsule of the lens, causing exclusion of the pupil. The tension is +2, and the globe tender to touch.

The iris bulges forward by the accumulation of aqueous behind it and presents a nest-like appearance. The sclerotic is vividly injected and the eye very sensitive to light. He could count fingers at 8′ with either eye. The fundus of the right presented nothing abnormal. The left eye could not be inspected in consequence of the turbidity of the cornea, and probably of the other media.

An immediate iridectomy on the left eye was urged as absolutely necessary to save what vision remained. He had been using atropine quite energetically, ever since the beginning of the attack, under the advice of his physician. This was discontinued at once and a liberal iridectomy upward, under ether, was made. The result was entirely satisfactory. The fluid imprisoned behind the iris was set free, the tension of the ball diminished, the pain relieved, and the circulation in the eye restored to its normal condition. He was placed under the use of bichloride of mercury, which was continued for several weeks. He returned home in a few days with good evidence that the eye was clearing up. A letter, received from him about three months later, says that he could read ordinary print with the left eye with ease. The right one, having been amblyopic for years, was not improved. Here the use of the mydriatic was positively injurious after the glaucomatous condition had developed. It was not used after the iridectomy was made. This condition of exclusion of the pupil may occur in the course of any severe case of plastic iritis and the tension of the eye should be watched. When once secondary glaucoma has set in an iridectomy should be done with as little delay as possible. If done early there will be a fair prospect of restoration of vision, unless some other intra-ocular complication should supervene.

When this patient left the hospital the media were so turbid as not to admit of an inspection of the fundus. This turbidity of the vitreous, or hyalitis, is not infrequently associated with iritis, and every cese should be inspected with the ophthalmoscope to determine this point. If, upon the subsidence of the acute symptoms, the pupil being clear, the vision does not return to something near its normal standard, we may suspect the presence of a retinitis or a hyalitis. The ophthalmoscope alone can reveal the true cause of the trouble. The frequency of these complications I have mentioned above.

CASE II. SPECIFIC IRITIS OF BOTH EYES.—PAPILLO-RETINITIS OF THE LEFT EYE. RECOVERY.

Mrs. E., æt. 26, was first examined Oct. 9th, 1882. She states that three months ago her eyes were both inflamed, that the left one had recovered, but that the right one was still quite painful. Upon examination it was found that she had suffered from an attack of iritis in each eye. The left eye had quite recovered and her vision was =0.5, which she said was as good as usual. In the right eye, however, the pupil was closed with a dense membrane, the tension was considerably diminished, the sclerotic was injected and the vision reduced to the perception of shadows. In the left eye the pupil dilated very well, there being but one filliform synechia. The fundus appeared healthy and there was no alteration in the retina or disc. The iritis was evidently of specific origin as she had had alopecia, a well-marked syphilitic eruption and ulceration of the throat. Hydr. bichlor. and potass. iodidi were ordered. On the 12th she again reported with the statement that on the previous day the vision of her left or good eye had suddenly failed. She could give no reason for the unexpected change, but complained of a feeling of discomfort in the eye. The vision was found to have been reduced from 0.5 to 0.1. The ophthalmoscope revealed a well-marked swelling of the optic disc with obscuration of the vessels. The retinal inflammation did not extend far from the disc and the vitreous remained perfectly clear. It would properly be called a syphilitic papillo-retinitis. There was also a return of the iritis and the pupil did not dilate as well as before.

Treatment by mercurial inunction was immediately ordered, and a solution of atropine to be used in the left eye. The effects of the mercury were carefully watched, and in about three weeks her vision began to improve. The swelling in the disc subsided and the exudation was absorbed and the outlines of the iris and vessels on it became more clearly defined. Without giving the details of the case, I will say that on Nov. 21, thirty days from the beginning of the papillo-retinitis, her vision was 0.7 with her hypermetrophia corrected. Her vision was now better than when first seen, but this is owing to the fact that her hypermetrophia was not corrected when the first examination was made. The sclerotic was clear and white and the pupil quite well dilated.

A new complication now presented itself in the right eye. The tension of the ball, when first seen and at each subsequent examination, was below normal, but now it was above normal and we had a condition of secondary glaucoma to deal with. This was owing to exclusion of the pupil and the accumulation of aqueous behind the iris. Examination with the oblique illumination showed the bulging of the iris very clearly. On the next day, Nov. 22d, an iridectomy upward was done, from which she made a good recovery. Nov. 30th, the eye is free from pain and perception of light better than before the operation.

She is still under treatment. It is not probable that the right eye will clear up enough to give her much vision, but the left one will be a useful organ, unless some new complication supervenes.

Here the iritis came on very soon after the secondary symptoms had developed, but the papillo-retinitis did not develop until three months later. As it was syphilitic a favorable prognosis was given and the result has been very gratifying. The mercurial treatment was pushed almost up to the point of ptyalism and with the most satisfactory results. As soon as the optic disc showed decided evidences of clearing up the mercury was discontinued.

We have then these interesting conditions: First, a double iritis followed by complete recovery of the left eye; afterwards a papillo-retinitis and an iritis in the left eye and a secondary glaucoma of the right eye from exclusion of the pupil.

CASE III. CHRONIC IRITIS OF BOTH EYES.—IRIDECTOMY.—HYALITIS AND RESTORATION OF GOOD VISION OF LEFT EYE.

Mrs. I., a nervous, delicate woman, about forty years of age, had an attack of iritis in the right eye in August, 1880. It was quite violent and there was a plastic exudation, which caused firm synechia in the lower half of the pupil. The iris was free upward and dilated moderately well. She had one or two subsequent relapses which resulted in the formation of a membrane in the papillary area. In March, 1881, an iridectomy upward was made, which had the effect to prevent any further relapses. The vision was very much impaired, being reduced to counting fingers at two inches. Up to this time the left eye had remained perfectly well and vision was excellent.

Soon afterwards, however, an iritis of what might properly be called the chronic form developed. The iris would become discolored and synechiæ form, which, however, would yield to the influence of the mydriatic and hot applications. Exacerbations occurred occasionally, but always yielded to the above treatment. After the subsidence of one of these attacks the pupil would be allowed to contract again after every trace of the inflammation had disappeared. During the summer of 1881 her health was improved by a visit to the seashore, but upon her return to the city her eye again began to give her trouble. It was necessary, in order to prevent adhesions, to keep the pupil dilated *ad maximum* all the time, and the only relief seemed to be in an iridectomy, to which she would not consent as her vision was still as good as ever.

In December, however, her vision failed very rapidly and was so much reduced that she could not walk in the streets alone, nor could she recognize friends unless they were quite near. The vitreous became very turbid and the disc could scarcely be recognized. The vitreous was filled with a cloud of apparently very fine, dust-like particles, which made excursions in different directions as the eye was moved from one point to another. There were no large shreds, nor flakes, as are seen in cases of choroiditis. There were no alterations visible in the choroid and it presented the characteristics of hyalitis.

As her condition seemed to be getting gradually worse, and the iritis persisted, she at last consented to an iridectomy, which was done January 10, 1882.

Her condition since this has been much improved. In the spring the constant current battery was used for a few weeks to clear the vitreous and its effects were both prompt and striking. She can now, with the aid of glasses, read ordinary print, and there has been no recurrence of the iritis since the operation. The vitreous of the left eye is quite clear and the disc can be seen without difficulty.

The right eye has also closed up considerably and there has been no return of the iritis.

Here is a case where there were no constitutional evidences of any specific taint. The disease ran an unusually chronic course in both eyes. There occurred relapses of the iritis in both eyes until the iridectomies were made and after that they did not return. The hyalitis of the left eye did not develop until several months after the iritis had set in, and the iridectomy did not seem to effect it, nor were there any synechia at the time it came on to account for it. In this case an iridectomy on the left eye was recommended before the hyalitis set in, but she declined to have it done as her vision was still very good. It is a question whether it would have had any influence in preventing the development of the hyalitis.

It will be seen from these cases that an iritis may present several complications and that we should be on the lookout for them and combat them as they arise.

I most cordially advocate prompt and energetic measures in every case of iritis whether it be specific or not. Atropine should be used freely, and the pupil kept dilated *ad maximum* until all irritation of the ball has subsided. Four or five leeches should be applied to the side of the nose near the inner canthus. They often produce a marked and immediate amelioration of all the symptoms. Next to leechs, hot fomentations and warm poultices have a most beneficial effect. Poultices should not, however, be allowed to stay on all night unchanged, as is so often done, for they then become a source of discomfort and may be disadvantageous if not injurious. They should be changed every two hours during the day, and at night the eye bound up with a bunch of cotton or wool over it.

Full doses of morphia produce most excellent results, but should only be continued as long as the violent pain lasts. The patient should be kept in a darkened room until the acute symptoms have subsided. If the case is of specific origin, a mercurial course should be instituted at once. The inunction method has met with most satisfactory results in the hands of specialists, and is strongly recommended. If it is of rheumatic origin an anti-rheumatic treatment is indicated, and the salicilate of sodium wtih quinine makes an excellent preparation.

There are other syphilitic diseases of the eye which cannot be touched on in this paper as choroiditis, keratitis, retinitis, pareses and paralysis of the intrinsic and extrinsic muscles of the eye, gumma of the ciliary and disease of the orbit. They, with iritis, are well worthy of the careful consideration of the practitioner.

DISEASE OF THE BONES OF THE FOOT (CARIES) SUCCESSFUL OPERATION.

By Francis Dowling, M.D., Cincinnati, O.

M. S., aged fourteen, living in the northern part of the State, (Hillsboro) gives the following history of her case:

About four years ago, as she was returning from school one afternoon she accidentally knocked her right heel against a stone, causing the foot to "turn." With the exception of a a slight stiffness of the ankle, she noticed nothing wrong for some time. About six months afterwards, she complained that the heel felt tender after walking. This finally increased until she was no longer able to use the foot. The heel now commenced to swell, became puffy, and was so tender that it could not be touched without causing such intense pain that the patient broke out into a cold sweat. An opening soon after made its appearance on the inside of of the foot near the heel, and was soon followed by another on the outside of the foot in the same locality. Several pieces of bone escaped through the openings, with the purulent discharges during the last six months. She says she has not moved from her bed for over two years, on account of her dread of touching the foot to the ground.

I saw the little patient for the first time on the 28th of December, 1871. She was confined to her bed, and was the very picture of misery. Her face was pinched and emaciated, bones of the legs and arms were almost as distinct as they would be in a skeleton. I thought at first that there was a tubercular, or scrofulous foundation for the disease, but on careful examination of the lungs I could find no evidence of disease of these organs; and there was an absence of any history of a scrofulous diathesis. I prescribed a tonic and ordered the comp. iodine ointment to be applied to the heel once a day. The foot was bandaged from the toes to about the instep, barring openings at the points where the sinuses discharged. On my return Jan. 10th, the puffy condition of the heel had entirely disappeared, with a marked reduction in the tenderness, and on the 16th, after consulting with the family physician, Dr. Sheppard, of Hillboro, we decided that cutting out the diseased bone was the only thing that would insure any permanent benefit.

After having etherized the patient, and applied the Esmarch bandage from the toes to above the instep. I made an incision along the base of the external .maleolus, extending back to the border of the tendo-Achillis, this was crossed by another beginning at the lower margin of the maleolus, and extending down to the sole of the foot. After dissecting the soft parts away, the bone gouge forceps were used to enlarge the opening in the os calcis.

I now introduced a strong hoe shaped scoop that I had made expressly by Mr. Autenreith, for the occasion, and by dint of cutting and scooping I cleaned out the whole of the os colcis, cutting through and enlarging the internal opening as well, thus leaving only the shell of the bone.

The cavity in the foot thus formed was large enough to enable me to introduce a sponge the size of the fist, with which the opening was cleansed, using a weak solution of carbolic acid. After removing any suspicious looking spots, by means of the gouge, the wound was filled with bits of lint dipped in a carbolized solution, and a roller bandage applied around the foot and instep. I left orders for the dressing to be removed next day, and the cavity to be syringed out with a carbolized solution, and to be filled with lint soaked in the same solution, this to be done daily.

Things went on favorably now. The cavity in the foot gradually filled up, the patient's appetite began to improve, she began to go about on crutches, and everybody was ready to dance for joy, when lo and behold, a new opening appeared on the inside of the foot near the region of the old sinus.

We decided to open the foot once more, although everybody connected with the case was about discouraged, including myself. This time I cut in from the inside, following the course of the new sinus; avoiding the posterior tibial artery, and scooping until I could find no more softened bone. After I had got through, the foot looked as if I had scooped out the whole interior, but I was determined that no diseased bone should be left this time. The wound was dressed as in the previous operation. The cavity now filled up rapidly and at the end of three months had entirely closed. She was put on crutches, a stick was finally substituted for them, and now, for the first time in three years, the patient was able to walk without any artificial assistance.

I heard from her last week, and learn that she has gained thirty pounds in weight since the operation was performed, on the 27th of last February.

The case just mentioned was certainly a very instructive one, to me at least. It convinced me that in disease of the spongy bones, no permanent benefit can be derived from medical treatment proper, the removal of the diseased bone is the only sure remedy. When caries once attacks these bones, there seems to be no barrier offered to its onward march, and bone after bone is destroyed, until the whole structure succumbs to its influence.

The operation here performed is a modification of the one proposed by M. Sedillot, and has this advantage over the old one, which excises the entire bone or bones, viz., that the shell of the bone is left, or a portion of it, at least, and this gives the chance for the formation of new bone within the old shell. Secondly, the important tendons are not disturbed from their natural attachments, and then there is no deformity as a consequence of the operation. Dr. Holmes, the distinguished author, is however, no friend of this operation, for he says! There are few cases of extensive and deep seated caries, in which the limits of the disease can be reached, and a partial operation is worse than none at all. Besides, extensive exposure of the interior of a bone is a most hazardous proceeding and only too often terminates in pyemia. Since the time that this was written by Mr. Holmes, the operation has grown in favor, M. Seidelet operated in this way thirteen times without meeting with a single case of blood infection as a consequence of the operation. As far as not being able to gouge out all of the diseased bone is concerned I do not see why it cannot be done in the majority of cases, at least by making the external opening sufficiently large.

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Clinical Lectures.

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

[Reported by T. R. COFFMAN, M.D.]

SPONTANEOUS DISLOCATIONS — RESULTING FROM MYOSITIS—VOLUNTARY DISLOCATIONS—VOLUNTARY SUB LUXATION OF THE KNEE.

I had two very rare cases to present to you to-day, but unfortunately one fell by the way; that one could sub-dislocate the knee at will, but he did not obey, en route to the hospital, the scripture injunction — he "looked upon the wine," and fell by the wayside. "He put an enemy into his mouth" which stole away his legs as well as his brains, his normal articulations refused to support him. I may, however, refer to him to illustrate the case before us. At will he can subdislocate the left knee. He says that this condition followed a fracture of the leg near the joint. This story seems improbable for there is no trace left of such an injury. He walks with a slight limp, although the joint appears to be painless.

SPONTANEOUS DISLOCATIONS OF SHOULDER.

This little girl five years old, when stripped shows a remarkable development except in the right arm, and especially at the right shoulder; at this latter point you recognize a prominence the projecting Acromion with a sink just below it —a deformity such as you see delineated in your text-books illustrating dislocations of the shoulder; when, however, I examine the parts, I find the head of the humerus resting in its proper place upon the Glenoid Cavity. What then produces this deformity? Doubtless, atrophy of the Deltoid; this muscle is so shrunken that but little, except its fibrous frame work remains, it is not only atrophied, but it has lost all power. The child can not raise the arm, it can, however, rotate it, and has some strength left in the forearm and hand. The muscles from the shoulder down are soft and flabby — deficient in animal heat. There is a marked difference between the right and left, perceptible to you from the benches, every muscle has undergone change, but the degenerations about the shoulders are most pronounced, and to them I invite your study.

Upon examination I find when the arm is quiet, at absolute repose, the head of the bone rests normally upon the glenoid surface, but when I place my thumb under the acromion process, and make slight pressure, it sinks into the axilla, producing the first variety of Scapulo humeral dislocation, when, however, the force is removed the bone does not retrace its course—the joint does not assume its normal form, a little manipulation is required to effect its reduction.

When the child rests upon its hand, bearing a part of its weight upon it, the head of the bone is thrust forward and the Sub-coracoid, the anterior dislocation is made conspicuous; unlike the former, this dislocation when the force is removed is reduced, the head of the bone assumes its proper position.

I cannot as you see so readily produce the third form of luxation, the Sub-spinous, the head of the bone cannot be placed upon the dorsum of the scapula.

What permits the two dislocations and prevents the third? The capsular ligament, the strongest in the body at the upper part, where it is reinforced, by the tendons of the three muscles the Supra-spinatus, the Infra-spinatus and Teres minor, is relaxed in front and below, but at the posterior part it is still comparatively firm, hence, the bone slips from its base of support upon insignificant pressure being applied in the direction of the first two displacements, but when I attempt to thrust it backward, the tissues, the function of which is to support the joint, are sufficiently intact to prevent this movement.

What was the cause of this remarkable condition? It was not congenital; up to one year ago no deformity existed, this child was normal in form and function. It is not traumatic, there is no history of an injury in the case although a blow often results in atrophy of Deltoid, though seldom, if ever resulting in a degeneration of all the soft tissues of the joint. The dislocations of of this shoulder are not like those which some persons have been capable of producing by a relaxed state of the capsule and ligaments and great muscular power.

One year ago this child was seized with myositis, a muscular soreness—muscular inflammation; the muscles were red, tender, and swollen; after a time all trace of this acute action subsided, leaving no effect any where except in the right shoulder, in the muscles of the upper extremity, and in the left leg, in the latter a mere lameness, a slight disability, which is disppearing. The disease spent its force as we have seen upon the shoulder joint, and the muscles of the arm, forearm and hand.

Occasionally, not frequently, inflammation results in atrophy, in the absorption of an organ or part of an organ. In this process the Deltoid has been the most conspicuous in suffering, other muscles are however, likewise soft, flabby and greatly abridged in power. Most vitality in the upper extremity is left below the elbow, hence as heretofore remarked the child has some grip left in the hand.

What can be done for this case? The outlook is certainly not promising. Although I am informed by the patient's physician, Dr. Moneyhan, that these muscles show no response when a current is passed through them. Still electricity should be used; this, with massage daily, almost hourly applied, constitutes the only means vouchsafed in such conditions.

In massage properly, faithfully made we have most reliance—by it blood may be made to re-enter, or rather more blood should be made to traverse these tissues, increasing their nutrition and imparting new life to them.

VOLUNTARY DISLOCATIONS AND SUB-DISLOCATIONS.

In marked contrast with this child is the now celebrated case of Warren, a gymnast, who visited most of the schools of this country, and is now presenting himself to the European surgeons. He was before you last winter, and many of you will remember the wonderful control which he had over his articulations. He could at will subluxate all of the great joints, the hip he could throw out entirely, making a complete dislocation, with its shortened limb and inverted toes. He was a man of remarkable muscular development. The capsules and ligaments were so relaxed that they allowed these voluntary displacement, but the muscles in their unconscious action, if you will allow such an expression, held the joints in place. After growing to manhood he seemed to be in no danger of the involuntary dislocations, which occurred frequently when a child. He walked well and performed for many years as a gymnast, and at times he engaged in the ordinary labor of a mechanic without endangering his joints. He made the dislocations in most of the joints by muscular force alone; in some he was compelled to supplement this by the strength of his hand. When he would throw the femur out it would return to the acetabulum with a marked thud. This man, it is said transmitted the same infirmity to two of his children.

CLINICAL LECTURE DELIVERED AT THE GOOD SAMARITAN HOSPITAL.

By W. W. Seely, M.A., M.D.

DIVERGENT STRABISMUS—OPERATION.

This young lady was injured in the right eye nine years ago, by a piece of walnut shell which caused an opacity of the cornea. You observe as she looks at you that she has a deviating squint. This was probably the determining cause of the strabismus by interfering with binocular vision. The eye is not well controlled and moves outward. The deviation is considerable except upon fixation. There is an insufficiency of the internal rectus muscle and a hypermetropia. These with the opacity are the cause of the extreme squint. In internal squint there is also a defect in the muscular balance, and the error of refraction well nigh always hypermetropia.

In correcting the squint endeavor to correct that portion which is not overcome by the effort at fixation, and if the division of the external tendon should prove not quite sufficient we can use a prism to correct the balance. As she now wears a convex glass No. 30, we must add prisms with the bases internal. It is not so easy to overcome external strabismus by an operation as internal. Often we must devide not only the external rectus muscle, but also make an advancement of the internal; two lines is about as much as we may expect to correct by a single operation.

The administration of an anæsthetic is not necessary because the operation for tenotomy of the external is much easier than that of the internal rectus. The insertion of the former is considerably further back than the latter, consequently tenotomy is not performed so closely to the sclero-corneal junction as in division of the internal muscle, nor is the tendon of the external rectus spread out so much as the internal, consequently the oparation is simpler in all respects.

We have occasion now and then on account of deviation or insufficiency to divide the superior and inferior muscles. The inferior I have never divided, the superior on three or four occasions; only recently I relieved a marked upward deviation by division of the superior rectus muscle. The patient's eye deviated outward and upward. I first divided the external rectus to correct the outward deviation, but the eye seemed to be on a higher plane than the other for which I divided the superior which corrected the deviation almost entirely. He now wears a weak prism with the base downward for the remaining insufficiency of the muscle.

After having divided the tendon in this patient I shall have this eye bandaged and for the night have both eyes bandaged. It will not do much good, but at least a little, by keeping the eyes quieted let the tendon get fixed before the bandage is removed.

This may be taken off in twenty-four hours as the tendon has become sufficiently fixed by that time.

In making tenotomy, I would lay particular stress upon one point, namely, be careful to divide every fibre of the attachment, especially in dividing the muscle for internal stabismus. In order to add to the effect of tenotomy you can also divide the capsule: if the tendon only is divided that portion covering the width of your tendon is all that is separated. I always make the division of the capsule just over the tendon —the so-called Græfe operation.

SUPPURATING CYST OF ORBIT.

This boy has a tumor hard but compressible at the inner angle of the left eye, spreading out the bones of the nose. From its outward appearance it may be a cyst, a polypus, or something else, we can only tell when we enter it. I introduce this hypodermic syringe and feel that I have gotten into a cavity; as I withdraw the needle I find a few drops of pus escaping from it, as I push down the piston of the syringe. I now make a small incision just at the point where I inserted the needle, and you now see an immense amount of pus escaping when I make firm pressure on the tumor. After having let out all the pus I wash out the cavity with a solution of boracic acid, and then insert a piece of absorbent cotton as a drainage tent.

It is impossible to say when the suppuration began. It may be necessary afterward to continue the injections or to make a still larger incision. At the present time I simply open the cyst and let out the pus.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of November 20th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.*
W. H. WENNING, M.D., *Secretary*

Gastric Ulcers

DR. REAMY said he reported the following, not for the purpose of revealing any new or heretofore unknown facts, but simply as a clinical contribution sustaining the high claims of absolute rest to the stomach in the treatment of gastrie ulcer, and the facility with which rectal alimentation can be conducted, rendering this rest possible.

He was consulted last September, 1879, by Miss B., age 21, resident of this city, now resident of Ludlow, Ky. Patient is well developed, highly educated, nervous temperament, neither blonde or brunette, of excellent family, ancestors from North of Ireland. Father and mother both living, and has two brothers living. Family history excellent.

She had suffered for two years of the ordinary symptoms of dyspepsia, which within the past six months had become so aggravated as to be a source of much distress. At the time of this examination she had lost twenty pounds in weight, had diminished appetite, perverted taste, sense of weight in the epigastrium frequently amounting to positive pain after eating. Acid eructations, frequent vomiting of food, and obstinate constipation. She had not vomited blood nor had any evidence of blood been detected in the stools. She was, of course, more or less anæmic. Menstruation somewhat diminished in quantity, but normal as to time. The most critical examition I could make failed to reveal any pulmonary or cardiac disease. There was likewise no clear evidence of extensive interference with the portal circulation. No tumor could be detected in the epigastrium.

The diagnosis was chronic gastritis.

Treatment:—Patient was ordered upon an exclusive milk diet, no other food of any character being allowed. After two weeks the milk was well borne and relished; the pains, however, with occasional nausea, though greatly diminished, still were present. Galvanism, 40 cells over the epigastrium, sessions of ten to 20 minutes, every alternate day was now employed. Rapid improvement followed. After six weeks treatment the galvanism was discontinued, but the diet was adhered to for three months, at the expiration of which time the patient had gained 18 pounds in weight, and was perfectly free from pain and all discomfort. In the following spring the symptoms in a modified form recurring she was again placed upon milk diet, having prior to this time indulged in some indiscretions as to diet. Improvement again followed; a two month's sojourn at the seashore completed her restoration aparently to perfect health. She now passed from under observation until March 7th, 1882, at which time she visited the speaker's office, suffering of symptoms quite similar to those before described. She had again lost in weight, and was the picture of ill health. A return to the former course of diet was ordered, but was not rigidly adhered to. May 1st, he was summoned to visit her at her home and found her still further emaciated, complete loss of appetite, intense pain in the region of the lesser curvature of the stomach aggravated by taking food of almost any character; vomiting more frequent. No blood having been discovered, either in the stools or in matter ejected from the stomach. The vomited matter was sometimes simply bile and gastric mucus—frequently appeared to consist simply of undigested food recently taken. No point of induration could be detected by the most critical examination. The diagnosis was now gastric ulcer, and the serious character of such a condition explained to the patient's brother, and also in a modified form communicated to the patient in order to insure strict adherence to orders as to diet. She was now placed absolutely upon milk diet and ordered to remain in bed. Two or three visits were made to the patient covering a period of as many days by his son-in-law and colleague, Dr. G. S. Mitchell. May 12th a summons of great urgency was responded to by Dr. Mitchell; thirty minutes later the speaker joined him at the bedside of patient. She was blanched, was in a state of profound and alarming syncope, conscious but unable to speak. Pulse could not be detected at the wrist at all. The bed and floor about it deluged in dark blood which had been vomited within the preceding 40 or 50 minutes, certainly not less than 1½ quarts of blood had been lost. Brandy was injected hypodermically and per rectum. Pellets of ice were allowed to be swallowed; ergot was also injected hypodermically. Ice bladder applied to epigastrium. In an hour she had slightly rallied when slight vomiting of blood again prostrated her. This, however, ended the hematemesis. During the afternoon the bowels were moved twice, the stools characteristically black and tarry, chiefly blood. The crucial proof of the correctness of diagnosis had now been presented in alarming form. The situation was grave. The prognosis was guarded. It could only be said that the case was not desperate—there were hopes for recovery. In attempting to arrive at correct conclusions in this regard, of course one of the most important questions was, what is the depth to which the ulcer has penetrated the wall of the stomach. The large quantity of blood lost at once would lead to the fear that the splenic, gastric, or gastro-epiploic, or other important arteries had been severed, which could not occur unless the ulceration had penetrated completely through to the peritoneal coat of the stomach. The physicians were led to hope, however, from the pronouncedly venous character of all the blood ejected that notwithstanding its great quantity it was from distended veins in the neighborhood of the ulcer which had been ruptured, as pointed out long ago by Andral.

They were still further confirmed in this hope by consideration of the fact that the rapidity with which the blood had escaped would probably prevent its discoloration, in case it had been arterial, by the gastric contents. Absolute rest of the stomach was decided upon. Nothing was administered by the stomach but small pellets of ice and occasionally a teaspoonful of water for 20 days. Patient was sustained by rectal alimentation exclusively, which consisted of milk, milk punch, mixture of albumen in water, beef-tea, etc., alternating from time to time as occasion required. The injections were repeated once in five hours or about that, day and night, and were well borne. Several times irritation of the rectum and rebellion was threatened, being easily allayed, however, by adding tinct. opium to the enemata, which also had a soothing effect upon the general condition of patient, securing sleep. At the expiration of 20 days attempts were made to feed the patient by the stomach, small quantities of milk treated by Fairchild's ext. of pancreaticus, but the induction of pain and the absence of appetite caused patient to reject this method. Rectal alimentation was resumed exclusively for ten days longer, the patient slowly but surely recovering. She was now allowed milk in small quantities, which was well borne. She was dismissed July 9th, but little over two months after treatment was commenced. She was called upon a few days since by Dr. Mitchell who found her in the enjoyment of robust health; weight 154 pounds.

Dr. R. B. Davy, in connection with the above, reported the following case: L. B., aged 46, horse trader, consulted me about six weeks ago for loss of appetite and persistent nausea. He has been a steady drinker for years though he has generally enjoyed robust health. About one year ago he applied to me with pain in the cardiac region and some palpitation. Some simple treatment was ordered, and he was told to avoid excesses of all kinds, after which no further complaint was heard. A laxative was given, and lime-water and milk ordered, but without effect, and I was asked to see him at his house on the following day. On examination I found his temperature 101.5° F., pulse somewhat frequent, tongue with brownish coat, breath offensive, appetite very poor with inclination to vomit on taking food. Quinine was administered and rest enjoined, but despite my order he would leave the house, and though eating nothing he would go about his affairs on the street. After a couple of days the fever abated, and he expressed himself as feeling better, though his tongue was still coated and as white as cotton. He ate very sparingly and drank root beer, as that only would remain on his stomach. One evening, about a week after he first complained of being sick, he vomited some coagulated blood; he did not speak of this, but on the next morning went off on the railroad some forty miles in the country, where he drove a considerable distance further in a buggy. When he returned from this jaunt about two o'clock the same afternoon, he commenced vomiting blood. On my arrival at his bedside about five o'clock, he had thrown up fully three pints of blood which was still fluid. He was blanched, almost pulseless, and bathed in perspiration. The vomiting had ceased, though the inclination to throw up was very great. This continued until the following day when the bowels were opened by injection. Tarry stools continued to pass the bowels for about five days. The day following the hemorrhage the skin and conjunctivæ became discolored with bile, which appeared also in the urine. The appetite remained nil for several days after the hemorrhage, though gradually raw oysters were taken with increasing relish, and other articles of food slowly returned to. There was no epigastric tenderness at any time, though often there was abdominal tenderness and some tympanitis. The temperature after the hemorrhage did not rise one degree above the normal, and the tongue gradually cleaned off, commencing at the edges. About 24 hours after the hemorrhage a teaspoonful of clear blood was thrown up while retching, but no further bleeding occurred.

This case is strongly suggestive of gastric ulcer, though it is not impossible that the bleeding occurred from the stomach and upper bowels together. That the liver was at fault, most probably, from chronic alcoholic poisoning, seems to be beyond doubt; and we may attribute the hemorrhage in some measure to the fact that the portal circulation was interfered with. That embolism of a gastric arteriole should have occurred, thereby exposing an area of mucous lining to the solvent action of the gastric juice, is in my mind, the most reasonable solution of the problem; as the condition of the heart and circulation has at no time of late been free from the evil influences of drink, excitement and general fast living.

DISCUSSION.

Dr. Tate said that in connection with the cases just reported, he would mention the following: About two years ago he was called to see an old gentleman on Barr St., laboring under the following symptoms: a most intense pain in the stomach, a pulse reducd and scarcely perceptible, surface of the skin cold and clammy, and a most violent shaking as if the patient had a chill. He inquired about the history of the patient, and learned that he was an old gentleman, eighty-five years of age, unusually well preserved and in the enjoyment of good health up to a month or two ago. He was, however, a great eater, often taking indigestible food into his stomach which would cause him great pain until it was ejected from the stomach whereupon pain ceased. As the patient proved very rebellious to any efforts at restricting his meals and persisted in eating indigestible food these same symptoms came on frequently. The pain was always of a boring character as if it penetrated through the stomach into the vertebral column. When the contents of the stomach were gotton rid of the pain ceased. There was no vomiting of blood at any time. The speaker came to the conclusion that he had to deal with a case of gastric ulcer, even if there was no hæmatemesis, as this disease may occur without it. During the paroxysm of pain he gave hypodermic injections of morphine, and in the interval he put him on the use of iodoform, one grain in a pill every four hours and continued this treatment. He administered no injections but allowed the patient two tablespoonfuls of milk once every three hours in the day time, and nothing else. It was this restriction of the diet that made the patient rebellious and the non-pursuance of which brought on the return of the paroxysms of pain. In two weeks the man was entirely relieved and in three weeks he got up and walked about. The speaker was led to the use of iodoform from the fact that he had been treating a chronic ulcer of the leg successfully with this agent, and it occurred to him that the same treatment might also prove servicable in an ulcer of the interior. When he consulted his National Dispensatory he found that some one else had resorted to the same treatment before him.

Now this was but one case, but it was undoubtedly one of gastric ulcer that recovered. Whether the curative agent was the iodoform or the low diet must depend on experience.

Dr. Cassat said that he had a case last August similar to the one described by Dr. Reamy, except that the pain in the gastric region was excruciating. He began treatment with morphine hypodermically and iodoform internally. As the stomach continued to reject every thing he administered, injections of milk and beef tea for a period of three weeks were given without any internal administration of food. Since then the patient has perfectly recovered.

Dr. Ravogli said he saw once an autopsy in a case of gastric ulcer. A man suffering with purpura hemorrhagia had an attack of great pain in the region of the stomach and abdomen. Quinine and iron was ordered, the spots disappeared and the patient left. In two or three months afterwards he again returned suffering with an insupportable pain in the stomach, bloody vomiting, and after a while also bloody discharges from his bowels, the stools having the appearance of coffee-grounds. In the last days the bloody vomit became fearful he ejecting large quantities every few hours, until he died. At the autopsy a round ulcer with sharp edges and extending into the peritoneum was discovered in the lesser curvature of the stomach. The stomach was full of blood and the peritoneum was studded with many hemorrhagic spots. This may throw some light on the etiology of gastric ulcer.

Rindfleisch says it is produced from a hemorrhage of the mucous surface, while Virchow claims it is the result of thrombosis and embolism of the blood vessels of the stomach.

Dr. Whittaker said that the discussion of gastric ulcer had such a wide range that it was difficult to say much more about it except as to theoretical points. The cases presented showed all the main symptoms, so that the diagnosis was rendered easy. Sometimes, however, the diagnosis is very difficult between gastric ulcer and chronic ulcer. Frequently an ulcer is overlooked and its existence only revealed on the post-mortem table, and sometimes an internal hemorrhage is found to be due to an unsuspected case. When there is chronic thickening of its walls it may simulate coarser lesions, as for instance, cancer. Ulcer of the stomach is, moreover, of more frequent occurrence than is commonly believed; about five per cent. of deaths from all causes being due to this affection. It is a surprising fact that it occurs much more frequently in some countries than in others, without any particular reference to diet. Thus, in England, in some places the mortality is as high as eleven per cent., whilst in Germany the ratio is only four per cent.

Pain is the most characteristic symptom, few cases occurring without it. According to Brinton vomiting occurs in about four-fifths, and hematemesis only in about one-third of the cases. The rarity of this most characteristic sign is unfortunate for the diagnosis.

As regards treatment nothing can be mentioned more than has already been said. The main indication is to give the stomach rest. Most of the remedies given to heal the ulcer are theoretically as well as practically defective. Nitrate of silver is the substance most used, but it is not to be supposed that a one grain dose which will be disseminated over the whole surface of the internal coat of the stomach can exert much force on a small ulcer, especially when we consider that the stomach is full of fermenting matter, and the ulcer is, as a rule, not bigger than a dime.

The main thing as regards diet is to give rest to the organ. Much attention is placed by clinicians on the state of the bowels; as constipation is a marked symptom some laxative must be given, and for this purpose the salines are the least irritating. For rectal alimentation the best is a pancreatic emulsion with beef; the pure pancreas being mixed with chopped beef. Rectal alimentation, of which so much has been said and written in terms of praise, had disappointed the speaker; after three or four injections there always occurred an intolerance of the rectum, especially if milk was injected, where the water alone is absorbed and the butter and caseine coagulate creating curds which are later ejected.

The most interesting part of this disease is its etiology. No particular contribution to it was made until by Virchow. Before that time it was thought that a too great acidity of the gastric juice or highly irritating food was the chief cause of the ulcer, but Samuelson was unable to produce an ulcer by increasing the acidity to any degree. Moreover the contents of the stomach become intensely acid in the acetic fermentations of gastric catarrh and carcinoma, and no ulcer results. Virchow showed that it arose from an embolus or a thrombus, an occlusion of a blood vessel at the base of the ulcer. Cohnheim injected into the blood certain substances, as wax and chromate of lead, and produced a gastric ulcer though not with such clear cut edges. Axel Key concluded that a cardialgia, which is frequently the first symptom of trouble in the stomach, was the cause of ulceration in keeping up a continued spasm of its muscular coat, which is hardly conceivable. The most valuable recent contributions emphasize the significance of anemia in its production. Lumeke found that the abrasions which resulted from the stomach pump healed in two or three days in healthy dogs, but resulted in ulcer in dogs rendered anemic by previous venesections.

It is known that extensive burns of the skin are apt to be followed by gastric ulcer, or ulcer in the duodenum from accumulation of effete preducts in the circulation, inhibition of the circulation and consequent anemia. Schiff and Ebstein produced an ulcer by irritating the brain and spinal cord. Aufrecht states that the injection of the tincture of cantharides causes an ulcer of the stomach by producing disease of the urinary tubules. Scarcely any chapter in nosology is more in need of further work in its final elucidation.

Dr. Tate replied that he would make one practical point in regard to the uselessness of injections of milk claimed by the previous speaker. Dr. Campbell, of Georgia, made a series of experiments on animals on rectal alimentation, to find out where assimilation took place. He found that the articles injected were taken from the rectum to the upper part of the intestinal canal and assimilation there took place. If this is true the milk will be just as nutritious in this way as if taken by the stomach.

Dr. Nickles said that undoubtedly numerous recoveries occur in cases of gastric ulcers that were not treated by rectal alimentation. No doubt ulcers heal very rapidly and may be present where we consider the case to be one of simple dyspepsia. He once had a case where there was no vomiting previous to the hematemesis. The pulse became rapid and scarcely perceptible; subsequently dropsy resulted in consequence of extreme anemia. This patient had suffered for a long time from the symptoms of an ordinary light dyspepsia. Vomiting of blood ceased after the hypodermic and internal use of ergotine. Rectal injections of milk were made besides the internal use of bicarbonate of soda and sub-nitrate of bismuth. Gradually the vomiting and other severer symptoms ceased and in five to six weeks the patient entirely recovered. The reporter of the first case had injected beef tea. If this be the ordinary essence of beef made by boiling the meat it cannot be of much use to the patient. As the albumen cannot be boiled out, this watery solution contains no nutritive material and therefore is only a stimulant and no nourishment at all.

Dr. Ransohoff said that when he was in Wuerzburg he saw as many as one dozen cases of gastric ulcer in one year. They were mostly in young persons and generally girls. He was not aware that it occurred so late in life as in the case cited by Dr. Tate. The speaker thought that it could not be caused by a great amount of food introduced into the stomach, as this would be more apt to produce dilatation of the organ. The question is if the so-called gastric ulcer be really an ulcer or simply an erosion of the mucous coat of the stomach. In his opinion the ulcer resulted when there was gangrenous changes in the mucous membrane of the stomach itself. In one case that he had seen the patient succumbed to the hemorrhage. Transfusion of milk was resorted to but without any brilliant result.

Dr. Mitchell said that although no satisfactory explanation may be given for the absorption of milk by the mucous membrane of the rectum, it is nevertheless a clinical fact. Experiments have proven that the mucous membrane possesses the ability of absorption and possibly of solubility. It is not necessary that the proteides should be converted into peptones to be absorbed. In the case reported by Dr. Reamy he was positive that the milk was absorbed.

Dr. Cleveland said that the explanation given by Dr. Tate when quoting Dr. Campbell's experiments possibly accounted for the absorption of milk. He had, however, seen a large amount of coagulated milk pass off from the rectum undigested. The rectum has the property of retaining food which it holds by its sphincters and is largely supplied with blood-vessels.

Dr. Tate in replying to Dr. Ransohoff's remark that he had not heard of the occurrence of gastric ulcers in old persons, said that such cases were numerous. If we suppose that an atheromatous condition of the arteries may cause a break in the blood vessels of the stomach and consider that an atheroma occurs more frequently in old than in young persons, we can easily account for the occurrence of gastric ulcer in advanced life.

Dr. Young thought that ulceration may be due to a necrosis of the coat of the stomach from venous instead of arterial changes, namely, from a varicose condition of the veins. As the watery portion of the food enters into the circulation, it may cause an overdistension of the venous side of the circulation, causing a varicose condition and subsequently ulceration as we find it in varicose ulcers elsewhere.

As regards treatment by giving rest to the stomach the speaker said that three years ago he had a patient where cancer of the stomach had been diagnosticated. He suggested to the patient to abstain from food altogether on every alternate day, and on that day to sponge her body with whisky in order to stimulate her. She kept up this treatment for over a month and did well under it. At this time she heard that a man in the neighborhood had died of cancer of the stomach; she became discouraged at this, took food promiscuously, as she thought she was to die anyhow, and finally died. During the previous treatment she had less pain and improved in flesh. Her friends therefore thought that if she had persisted in this treatment she would have ultimately recovered.

Dr. Reamy, in concluding the discussion, said that all the statements which have been made with regard to the different phases of digestion, the character of food required and the physiological laws governing this process in its various steps are true; but granting it, the clinical observations made by himself and two others show that even more than this is true. All know that the chyme must be acted upon by the secretions of the liver, pancreas, secernent glands of the intestines, the duodenal glands of Bruner, etc. Bile and pancreatic juice converts starch into sugar, emulsifies fats, and converts albuminous substances and glutens into peptones. He had in his own practice, both hospital and private, in repeated instances demonstrated the practicability of rectal alimentation. He had no doubt whatever that one of the best articles of food for this method is the pancreatic emulsion first proposed by Leube; that this emulsion is most eligible as an article of diet given per os in cases of gastric ulcer, since it is unirritating to the stomach and almost digests itself. But he wished to impress upon the Academy the fact clinically demonstrated that other articles such as milk punch, beef tea, white of eggs, etc., can furnish per rectum sustenance to the patient.

In the patient whose case he had to-night reported, there was clinical proof beyond question of the truth of these statements. This patient, as the report showed, had taken next to no food per os during a long time, but had been fed by the rectum regularly with the articles above named, milk punch largely predominating, beef tea having been given regularly at least twice daily. It could not be alleged that this young woman during this long period of time was sustained without nutrition, for she was already anemic and emaciated from long continued malnutrition, when the violent attack supervened. And yet, under rectal alimentation alone she rapidly gained in strength and weight, color coming to her cheek which had been blanched from loss of blood. The speaker wished to remind gentlemen who are so skeptical upon this subject that Kuhne had shown that the stools from cholera patients have a greater power of converting starch into sugar than saliva. Busch and others have shown that the intestinal juice can digest albuminous matter without the aid of bile and the pancreatic juice.

Tyson has called attention prominently to the admirable adaptation of the rectum, anatomically considered, for the purposes of feeding. Its great vascular supply rendering absorption more easy and certain; then its dilatation just above the anus furnishes an ample receptacle for food. The quantity employed not being too great nor too frequently administered, the anus soon acquires the power of acting as a perfect sphincter. Its rebellion under such circumstances will soon cease if the alimentation is properly conducted.

No one will deny that albumen, gelatine, starch, in short all colloids, must be converted into crystaloids before they pass into the system. No one, so far as the speaker knew, had demonstrated that this change can occur in the rectum, nevertheless, that nutrition from rectal alimentation by beef tea, milk punch, etc., does occur, cannot be successfully contradicted. To the criticism of his friend Dr. Whittaker, "that the caseine of the milk is all left in the rectum to be washed out, none of it being absorbed" simply this: The oil globules, water and salts constitute important elements and proportions in milk, and the retention of the casein does not disprove the absorption of these constituents, therefore does not disprove its nutritive properties when so administered.

To the criticism of his friend Dr. Nickles, that beef tea as ordinarily prepared is a poor nutritive, he would reply that no one now claims that beef tea has a high rank as a nutritive; on the contrary it ranks almost equal to alcohol as a stimulant. Nevertheless it is somewhat higher than alcohol as a nutritive.

THE Society of Ex-Internes of the Cincinnati Hospital will meet here on the 28th inst. A number of papers have already been prepared for the occasion.

Correspondence.

PHILADELPHIA NEWS.

Editors Lancet and Clinic:

Although you have not received a direct communication from the Quaker City, still, almost daily, something occurs that is of interest in a professional way.

The various medical schools have larger classes this year than last. At Jefferson there are over six hundred upon the matriculate list and in the Medical Department of the University there are four hundred and sixty. It seems there is no limit to the supply of students, many of whom imagine there is no end to the demand for doctors. The number of physicians battling with disease at the bedside certainly does not need increasing, but there is yet much room in the corps of investigators. If a student of diligent habits, one who is wrapt up in his work, will turn his attention to the many unexplored and almost unknown fields in medical science, a rich reward awaits him. Time spent in such a direction will bring reputation in some one special branch and after that has been gained, will come practice.

You are aware that the Alumni Association of Jefferson Medical College, at its last meeting, decided to raise the sum of fifty thousand dollars for the purpose of endowing a professorship to be called the "S. D. Gross Professorship of Pathological Anatomy." This Chair will be under the control of a Committee composed of and selected by the Alumni Association, the occupant to be, if possible, a member of the Association. A good start has been made and it is hoped the new chair will soon be established.

The colored population of our city are in a high state of excitement at present owing to the discovery that for years one of their cemeteries has been furnishing "stiffs" to the medical schools. Three men were recently captured with a wagon load of bodies on the way to Jefferson. In the pocket of the driver was found the keys to the dead-house, and so accustomed was the horse to stop there, with his burden, that the officers had difficulty in urging him past on the way to the station house. The indignation among the dusky citizens ran so high that it was deemed best to guard the college property for two nights, by which time their anger had been appeased by the committal of the "snatchers" to prison, there to await trial. Here the law makes provision for the supply of dissecting material, but you must remember that there are probably twelve or fifteen hundred students in Philadelphia engaged in anatomical study. This makes a great demand for subjects, and if the legitimate supply fails, to meet the demand, why, of course, there is a temptation to obtain material in another manner. As a result of this excitement and exposure we may obtain a modification of the laws bearing on the subject, so that hereafter such a thing will fail to occur.

The Committee on Lectures, of the County Medical Society has arranged with Prof. Flint, Sen., for a course of three lectures upon "Points in Auscultation and Percussion." The first lecture was recently delivered in the society's large hall, but so great was the audience that many failed to gain entrance to the room. To provide against this hereafter, the committee secured the large amphitheater at Jefferson Hospital, where the remaining lectures will be delivered on December 16th and January 13th.

By a special resolution of the County Medical Society, a course is delivered each year, to which the profession of this and surrounding neighborhoods is invited. After Prof. Flint has delivered his final lecture he is to be tendered a dinner, given by the leading medical men of the city.

The societies here have lately increased in usefulness to quite an extent. Even the College of Physicians has felt the effects of infusion of new blood and seems to be awakening from a long period of lethargy.

A year ago the Pathological Society was almost upon the point of expiring. Members ceased to show interest in its welfare, numerous resignations were presented, heavy debts and an almost empty treasury stared the society in the face.

A number of changes were made and a new course adopted. The result has been far better than was anticipated; the membership is now over two hundred, old debts have been paid and the old society is in a more flourishing state than ever. A new volume of its transactions has just been issued, possessing greater interest than any previous volume.

Efforts are being made to establish a department of veterinary medicine, in the University, and already over twenty thousand dollars has been obtained.

Application was recently made to the Provost, for the admission of women to the medical classes, but Dr. Pepper very properly decided against any such a new departure.

Philadelphia now possesses a Woman's Medical College which is ample to accomodate aspiring females, hence it is somewhat surprising that an effort should be made to enter classes composed of men.

The "post graduate course" at the University is quite a success, a large number being in attendance.

This course is regarded as the fourth year course, and is intended solely for men who propose perfecting their instruction, after graduating in a recognized college. The University has faithfully followed the policy adopted a few years ago, and deserves credit for its effort, to elevate the educational standard in medicine.

Dr. Wm. Pepper has just presented the Trustees with a gift of thirteen thousand dollars, one to be applied to the proposed "Joseph Leidy Chair of Anatomy;" five thousand to a bed in the new wing of the hospital, and seven thousand for the creation of two free scholarships in the medical department.

It will hardly do for me to close this rambling letter without saying something of the clinics at the hospitals, but the truth is, my time does not often afford an opportunity of attending them, however, you shall hereafter receive a full description of some.

Through the kindness of my friend, Dr. Carl Seilers, I am enabled to report two cases, lately presented by him, to the post graduate class, in a lecture at the University Hospital. The first was one of paralysis of the velum palati, following a severe attack of diphtheria, and which had been greatly improved by the direct application of the Faradic current.

The patient, a little girl about ten years of age, had been left in such a condition by the disease, that her speech was impaired and it was impossible to swallow liquids. Attention was given to her general condition and, during the previous four applications of the Faradic current had been made.

This treatment enabled her to swallow without difficulty, and to pronounce distnctly, every letter of the alphabet. The prompt result in this case was surprising to me, as it had been my experience that paralysis of the soft palate is generally very stubborn and requires a long course of treatment.

Another case shown by Dr. Seiler, was of peculiar interest, as it illustrated one of the many forms of obstruction to the nasal cavity, caused by catarrh. The patient stated that his left nostril had been obstructed for years, and that a thick yellowish mucus, collecting in the nasopharyngeal cavity, caused constant hawking.

On examination it was seen that the cartilaginous portion of the septum was inclined toward the left, and that the floor of the nose was entirely occupied by an adhesion of the lower turbinated bone to the septum, which, at this point, was considerably thickened. No history of transmission could be obtained. Dr. Seiler supposed that the adhesion in the left nostril, was the result of an ulcer, upon the thickened septum, and that the hypertrophied mucous membrane covering the turbinated bone, coming in contact with it, became denuded of its epitheleal covering. On healing, the parts adhered to each other, a strong fibrinous band connecting them and producing obstruction.

This band was cut by means of a galvano-cautery knife, heated to a cherry-red heat. The operation seemed to be painless, and there was very little bleeding. It is said that when the loop of the galvano-cautery is heated beyond this cherry-red, the operation causes not only severe pain, but that the hemorrhage is as free as though an ordinary knife had been used.

During the past five weeks there has been some fear of an epidemic of diphtheria. Quite a large number of cases were reported, the death ratio running high. The disease seemed to be confined to the north-eastern section of the city, about Frankford.

Dr. H. F. Formad has been making some investigations concerning the baccillus tuberculosis, and in a paper, read before the County Medical Society, offers some points refuting its etiological relation with tuberculosis. The baccillus theory is certainly a beautiful one, but there are many weak points in it that will require much strengthening. Now, that there are so many scientific men seeking for germs, causing "all the ills that flesh is heir to," I wonder what the next new theory will be!

The last thing in the way of pranks, supposed to be the work of medical students, is a raid on doctor's signs.

Here signs are suspended beneath the window in a very handy position for midnight prowlers, and on a recent night, almost all the doctor's signs on Walnut street were torn from their fastenings. For a day or two it looked as though there had been a cessation of business in the doctors' quarters so many old familiar signs were missing. Now new gilded ones have taken their place, and a stranger would almost imagine there had just been a commencement in the neighborhood.

During the past week there were 405 deaths in this city, being an increase of 29 over the number reported the previous week, and an increase of 49 over the number reported for the corresponding period of last year.

The principle causes of death were.

Apoplexy	11.	Diphtheria	42.
Cancer	11.	Scarlet Fever	9.
Consumption	12.	Typhoid Fever	12.
Pneumonia	53.	Small-pox	4.
Croup	16.		

I regret to say that Dr. Jno. Forsyth Meigs is quite ill with pneumonia. M. S. FRENCH.

Philadelphia Dec. 12, 1882.

MONEY VALUE OF SANITARY PRECAUTIONS.—In these days of active sanitation one looks back with pain on the accounts we have of the hospitals of London and Paris towards the close of the 17th century and for years after. That able statistician, Sir Wm. Petty, shows that the deaths in Guy's and St. Thomas's Hospitals were about 13 per cent. on the admissions; in La Charité, in Paris, 14 per cent.; while in the great Hotel Dieu it reached 26 per cent. He also shows that, calculating the value of a life at that of an Algier slave in that day, £60, the deaths in the Hotel Dieu beyond those which occured through natural necessity, and being the result of mismanagement, cost France a total of £210,360. He further calculated that a proper expenditure of £3 per bed occupied during the year, amounting *in toto* to £12,601, would have saved France annually £197,859. Here is matter for consideration by our corporations and boards of guardians. The adage *occurite veniente morbo* applies to their functions as well as to those of the physician, and a wise outlay of money to meet expected epidemics is true economy. What would have been the saving to the ratepayers of Dublin if at the outbreak of the small pox epidemic the guardians had promptly provided full and fitting hospital accommodation, houses of recovery, and house-to-house vaccination! and had the municipal authorities been more active in the removal of nuisances, the cleansing of houses, and the other various duties of a sanitary authority, over which there was expended so much long-winded oratory.—*Med. Press.*

SIR THOMAS WATSON, the well known author of "Watson's Practice," died December 12th, in his ninety-second year.

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THE editor will be happy to receive early intelligence of local events of general medical interest, or which it is desirable to bring to the notice of the profession

Cincinnati, December 16th, 1882.

The Week.

THE great city of Cincinnati, the "Queen City of the West," the "Paris of America," etc., etc., has its sanitary affairs in rather peculiar hands. The business of overseeing the health of the city is virtually vested in a Board of Health, the active members of which are two saloon-keepers, two druggists and one politician. What special qualifications have these gentlemen that conspicuously fits them for this duty? Are the interests which concern the health of our families to be made the subject of barter and sale? Why should not our Board of Health be composed of physicians of prominence who would have the necessary knowledge to properly care for the public health? Is ignorance of sanitary laws a necessary qualification for a good member of the Board of Health? It does seem as if the interests at stake are too great to trifle longer with this department of our city. When the pestilence has come it will be too late. Now is the time to make the proper reformation.

ACADEMY OF MEDICINE.—The next meeting, Monday, the 18th inst., being set for reports of cases the following will be presented: by Dr. Ransohoff, a case of naso-pharyngeal polyp; by Dr. Seely, one of gonorrhœal iritis; and by Dr. Conner, two cases, one of hypertrophy of the labium masses and the other of fracture of the femur.

OUR FRIEND, Dr. W. A. Dun, has just taken the degree of M.R.C.P. in London where he is still pursuing his studies. We have an interesting communication from him which will appear soon in the LANCET AND CLINIC.

Selections.

MEDICINE.

IODIDE OF POTASSIUM IN FRONTAL HEADACHE. —Dr. Haley states, in the *Austrian Medical Journal*, that for some years past he has found minimum doses of iodide of potassium of great service in frontal headache. A heavy dull headache situated over the brow, and accompanied by languor, chilliness, and a feeling of general discomfort, with distaste for food which sometimes approaches to nausea, can be completely removed by a two-grain dose dissolved in half a wine-glass of water, and this quietly sipped, the whole quantity being taken in about ten minutes. In many cases the effect of these small doses has been simply wonderful. A person who a quarter of an hour before was feeling most miserable, and refused all food, wishing only for quietness, would now take a good meal and resume his wonted cheerfullness. The rapidity with which the iodide acts in these cases constitutes its great advantage.

AN ABORTIVE TREATMENT OF GONORRHŒA.—Dr. Beresford Ryley, writes to the *Lancet* on this subject. He reasons first, that two diseased surfaces in constant and close apposition with each other are unfavorably placed for recovery, therefore he separates the walls of the inflamed urethra by injections of hot water retained for twenty minutes or longer, which he accomplishes by the aid of a simple spring forceps to hold the extremity of the penis. Secondly, the gonorrhœal discharge must perpetuate and increase the inflammatory stage, therefore the injections when frequently used will have a salutary effect in this direction. Thirdly, it will, being well known that hot fomentations and applications are soothing and emollient in all inflammatory conditions, it follows that these hot injections and hot baths and the application of flannels wrung out of hot water must be beneficial.

And, lastly, certain drugs that have a styptic effect upon the genito-urinary mucous tract are plainly indicated. But experience proves that they can only be administered with benefit after the more acute symptoms have subsided. I therefore give the liq. copaivæ comp. when that stage has been reached, which is generally the case within a few days under the treatment indicated, and at the same time add three drops of liq. plumbi to each ounce of the injection, which must now be made with distilled water, and used less warm, or altogether cold. In some cases weak injections of nitrate of silver or chloride of zinc may now be of great use. I need scarcely add that the regimen, alimentary and medicinal, must be strictly non-inflammatory in the acute stage. Will you permit me to say, in conclusion, that I think the *modus operandi* of Mr. Cheyne's treatment and mine is very much the same—viz., separation of the walls of the urethra, dilution of the discharge, and lubrication of the inflamed surfaces with the cocoa-butter bougies. His objection to injections, that their effects "are only momentary," cannot apply to the manner in which I recommend them.—*Medical and Surgical Reporter.*

AN EXPLANATION OF THE URÆMIC SEIZURE.—Dr. Rühle (*Transactions of the German Medical Congress*, 1882) states that in every case of death from uræmic convulsions œdema of the brain is found to exist. But simple œdema of the brain does not cause convulsions, and some toxic agent must be added to the serous exudation to produce this condition. That chemical changes accompany the uræmic attacks is shown by the fact that the gastric secretions become alkaline and that the breath turns moistened litmus-paper blue. So soon, therefore, as œdema of the brain comes on in the course of these, as yet undefined blood changes, it acts as a poison and gives rise to convulsions.—*Medical Record.*

REPORT ON VISCERAL NEUROLOGY.—*The Heart.* Effect of Galvanism in the Human Subject. The effect of electrical excitation of the heart in the human subject has been very carefully investigated by Professor Ziemssen in a woman with a large defect of the anterior thoracic wall, the result of operation. A considerable portion of the præcordial structures had been removed in the excision of a tumor; and the ventricular and left auricular surfaces, the root of the pulmonary artery, the left coronary artery, and the left phrenic nerve could be distinctly made out, lying at the bottom of a hollow. (*Deutsch. Archiv f. Klin. Med.* xvx., S. 270) The normal movement having been carefully ascertained, as well as the effect of mechanical irritation, the influence of the induction current, and of the continuous current variously interrupted or non-interrupted, was thoroughly investigated.

The results appear to have been perfectly definite, and may be summarized as follows:

1. The induction current, of whatever strength, in whatever situation and in whatever fashion applied, produces no effect either upon the action of the heart, or in the way of pain or other sensation.

2. The galvanic battery, on the contrary, affects the frequency and rhythm of the cardiac action, or in the way of pain or other sensation.

a. Each individual galvanic irritation is followed by a visible and palpable contraction of both ventricles, when powerful currents are used. The effect of cathodal closure was acceleration of the beat from eighty to 140, and elevation of the apex of the cardiographic curve.

b. A strong galvanic current produces a sensation of tearing behind the lower part of the sternum, but no pain, beyond some "feeling" in the left arm.

c. A strong galvanic current, uninterrupted by opening or closure, applied to certain parts of the ventricular surface, raises the frequency of contraction to two or three times the normal, the rhythm remaining remarkably regular. Unquestionably the nervous structures, and not the muscular substance, must be considered the irritable elements. For, first, the irritable area extended from the auriculo-ventricular groove two cm. downwards upon the ventricle—upon the left side, behind the descending branch of the coronary artery; on the right side, immediately in front of and upon the phrenic nerve. Secondly, repeated irritation increased six or eight times the irritability of the centres. Thirdly, when a muscular contraction was induced, it was equally well-marked, whether the irritation was slight or powerful.

d. To reduce the frequency of the heart, very powerful galvanic currents are necessary, and in these instances the rhythm always becomes irregular.

3. Galvanization of the heart through the chest walls (as in ordinary individuals) produces acceleration, the force and the rhythm being also influenced; this result was confirmed upon other subjects.

Accelerator Nerves.—A case of injury of the neck under the care of Dujardin-Beaumetz appears to illustrate clinically the situation of the accelerator nerves of the heart in the cervical portion of the cord. A man fell on his head and sustained a contusion of the four lower cervical vertebræ and the spinal cord, the result being paresis of both arms, with pain along the course of the brachial plexus. Even for months after the accident, the pulses exhibited a remarkable difference in frequency, according to posture, being, for example, forty-nine in recumbency, seventy-three in the sitting position, and 100 in standing. *Bull. gén. de. Thérap.* etc., 1882, Feb. 28; and *Centlbt. f. d. Med. Wiss.* 1882, p. 432.)

Vaso-motor System. Tracts in the cord.—An investigation by Nicolaides, in the Physiological Laboratory at Leipsic, contributes somewhat to our knowledge of the course of the vaso-motor fibres in the spinal cord. By unilateral section of the cord in the lower dorsal region, and galvanization of the cervical portion, with necessary precautions. Nicolaides determined that the vasomotor nerves of the kidneys are derived from both sides, although the kidney corresponding to the undivided half is a great deal more irritable than the other. In other words, the vasomotor nerves of the kidneys, in their course down the cord, lie chiefly in the corresponding half of the cord, cut partly in the opposite half. Observations upon the carotids appeared to indicate that the same anatomical disposition holds good for this part of the vaso-motor system also. (Du Bois Reynold's *Archiv*, 1282, S. 28; and *Centlbt. f. D. Med. Wiss.* 1882, S. 466.)

Peripeeral Mechanism.—The mechanism by which the blood vessels react to the influence of change of temperature has been shown by Lewaschew to be peripheral in its seat. The hind leg of a dog was completely removed from the body by the thermo-cantery, and the local vitality maintained by means of an artificial circulation of defibrinated blood, which could be done with perfect success for eight or ten hours. It was then found that the vessels of the part contracted on exposure to moderate cold, and dilated on exposure to heat and severe cold. Digitalis and nitrite of amyl distinctly influenced the size of the vessels. An important observation was to the effect that the dilating influence remained unaffected by degeneration of the sciatic and crural nerves, showing that the nervous influence must reside in peripheral centres; for organic muscular fibre, on being tested by similar experiment, was found to become relaxed by cold and contracted by heat. Pflüger's *Archiv.* xxvi. S. 60; and *Centlbt f. d. Med. Wiss.* 1881, 918.)

Respiration. The Vagus in Respiration.—The effect of electrical stimulation of the vagus on respiration continues to occupy the attention of physiologists, without removing much of the difficulty which surrounds this subject. Very different results are obtained from time to time by different observers, and much ingenuity is exhibited in attempting to reconcile or otherwise account for the conclusions.

It will not have been forgotton that Rosenthal, as described in *Brain* for October, 1881, p. 418, has recently re-examined the conclusions at which he had arrived more than twenty years ago, upon the mechanism of respiration, and which have formed the foundation of all physiological and clinical teaching upon the subject ever since. Rosenthal adheres practically to his former views; whatever modifications may appear in his plan of the respiratory mechanism being in respect of the manner of stating it, rather than of matters of fact. The publication of these results of Rosenthal's has naturally caused a certain amount of disappointment to the younger physiologists who had been working at the subject of respiration for the last few years, and who had been publishing from time to time, as we have had occasion to notice, the results of elaborate investigations, more or less at variance with Rosenthal's. We are accordingly beginning to receive replies to Rosenthal's recent paper; and a prolonged and elaborate discussion may doubtless be expected for some time, before the matter is allowed to rest. Gad of Würzburg, whose observations on the vagus have been more than once referred to in these pages, has opened the discussion by questioning the soundness of one of the fundamental principles of Rosenthal's theory of the regulation of respiration. According to the latter, as is familiar to all, stimulation of the vagus accelerates the respiratory movements, but weakens them at the same time; stimulation of the superior laryngeal nerve slows the respiratory movements, but deepens them at the same time. In other words, stimulation of the vagus does not increase the activity of the medulla; *it only distributes the energy* (or the muscular contraction) *in a different manner.* It will be seen that the principle involved here lies at the bottom of inhibition in general; the problem being whether inhibiting impressions alter the amount of force liberated within a given time, or whether they merely distribute the force differently, the frequency and the amount varying inversely with each other, whilst the total effect remains the same. Gad maintains that the latter is not the case with the respiratory mechanism, any more than it is the case with the heart, and that stimulation of the vagus distinctly influences the amount of force liberated by the respiratory centres in the medulla, the result being acceleration with diminished depth of the individual respiratory movements, in association sometimes with distinctly increased, sometimes with distinctly diminished, respiratory efforts. The proofs offered in support of this contention consist not in any new observations, but in a restatement of previous experiments, which have been already recorded in these *Reports* (Du Bois-Reymond's *Archiv*, 1881, vi., S. 538).

Wedenskii has also obtained very different results in the rabbit, according to the strength and duration of the faradization, and the period of the respiratory rhythm at which the current was admitted to the vagus. The strength of current being gradually increased, transient irritation caused shortening of inspiration; the strength being further increased, an effect in expiration also made its appearance in the form of shortening. To explain this result, which agrees neither with Rosenthal's nor with Gad's view (1880), Wedenskii suggests that the same irritation diminishes the excitability of the respiratory centre in inspiration, and increases it in expiration, the inhibitory effect being the first to appear. The former effect is the result of sensory irritation of a centre during its motorial activity; the latter, of sensory irritation of a centre during its inactivity. Bubnoff and Heidenhain have found that the same law holds for cerebral (motor) centres, and the sensory tracts corresponding. When the irritation of the vagus was protracted, inspiration alone was shortened; and this result, in Wedenskii's opinion, strengthens his view. (Pflüger's *Arcdiv*, xxvii., S. 1.).

Meanwhile Meltzer, of Berlin, has offered a curious explanation of the discrepancy of these and similar results. He observed that the results of faradization of the vagus vary in different animals, not in the same individual; and an analysis of his subjects revealed the interesting fact that female animals gave one result, male animals another and a different result. He frankly states that the observation is of value only as far as it goes. In eight *female* rabbits the *expiratory* effect of faradization of the vagus was unquestionably the most marked. In seven *male* rabbits the effect was purely *inspiratory*. This result reminds one of the male and female types of respiration in man. (*Centlbt. f. d. Med. Wiss.*, 1882, S. 497.)

The Respiratory Centres.—Our readers may remember that twelve months ago an account was given of the novel conclusions arrived at by Langendorff with respect to the "respiratory centre," *par excellence*, in the medulla; this physiologist suggesting that it is a *regulating* centre for the much more widely diffused respiratory centres in the cord and brain, and that its function is chiefly *inhibitory*. A fresh series of experiments, performed by himself and Gürtler, appear to confirm Langendorff's theory (Du Bois-Reymond's *Archiv*, 1881, vi., S. 519). Electrical stimulation of the medulla, carried out with the greatest care, yielded an astonishing variety of results, both as regards the frequency and type of respiration; the expiratory phenomena on the whole predominated, however. There would thus appear to be both an inspiratory and an expiratory centre in the medulla, and these with a distinctly *inhibitory* function. The conducting, innervating, centres are, according to Langendorff, not situated in the medulla; and he describes a method by which he was able to mark out the limits of these, as distinguished from the inhibiting centres. It is important to note that the latter pass for some distance into the cord also. Langendoff gives further an interesting account of the manner in which the inhibitory centre in the medulla could be *stimulated* by slight pressure on the part, with the effect of arresting respriration.

Cheyne-Stokes Respiration.—"Periodical" respiration is a subject of the greatest possible interest to the physician, who is still in search of a satisfactiory explanation of "Cheyne-Stokes respiration." Many elaborate experiments, and observations of other kinds, have been made from time to time, and various theories propounded with more or less plausibility, respecting the cause of the ascending and descending rhythm and the periodic arrests in this remarkable form of breathing. The chief importance has naturally been attributed to an intemittent (insufficient) supply of oxygen to the respiratory centre, and consequent inequality of the nervous discharges, the depth of the respirations steadlly increasing until a sufficient amount of oxygen is admitted to lower the irritability of the centre, whereupon the descending rhythm commences. Manifestly there are difficulties in accepting this explanation as sufficient. Langendorff (Du Bois-Reymond's *Archiv*, 1881, S. 241 and 331) has recently made what would appear to be an important suggestion in connection with the subject. He has found that, in frogs, periodical breathing may be set up by cutting off the blood-supply to the medulla, whether by tying the aorta, by rapidly bleeding from the heart, or by arresting the ventricle with digitatis; that restoration of the blood-supply restores the natural rhythm; and—which is of special importance—that the disturbance does not occur under these circumstances in the "salt-frog," *i.e.* if the circulating blood be replaced by a "physiological" salt-solution. It is obvious from these observations, that in constructing a theory of the cause of "Cheyne-Stokes respiration," we must attach more importance to the *nutritive* function of the blood supplied to the medulla, and somewhat less importance to its *respiratory* function. We appear to have laid too much stress upon the insufficient supply of plasma, by which alone the nutrition of its irritable tissue can be maintained.

The Spinal Cord.—The localisation of the spinal centres in clinical practice is illustrated by a case under the care of Fürbringer. A man of 69 sustained a fracture of the spine, with complete paraplegia and paralysis of the bladder. Priapism supervented thirty hours after the accident, and the urine contained spermatozoa; thereafter there was a steady discharge of semen, until death on the third day. Post-mortem, a laceration of the cord was found opposite the fourth dorsal vertebra, indicating the limits of the genital centre. (*Berl. Klin. Wochen.* 1881, No. 43; and *Centblt. f. d. Med. Wiss.* 1882, S. 396.)

"*Trophic Nerves.*"—Skin diseases.—Several attempts have recently been made to discover actual anatomical evidence of lesion of the nerves or nerve-centres in certain diseases of the skin which have long been believed to be of "nervous" origin. Herpes especially has been carefully studied in this connection. Thus, Lesser has recorded in Virchow's *Archiv* (xxxvi. S. 390) two cases of herpes in which he found disease of the corresponding spinal ganglia; as well as two cases in which curvature of the spine was associated with zoster on the side of the convexity.

Leloir argues in favour of the same connection in the case of vitiligo, ichthyosis, ecthyma, pemphigus, and gangrene of the skin. Having shown that parenchymatous degeneration of the nerves can be demonstrated in these forms of disease, he points out that the nerves are free from similar degeneration in severe diseases of the skin, such as lupus and epithelioma, and that the nervous lesion is therefore most probably the primary change. This circumstance, as well as the fact that such degeneration is found precisely in diseases which appear to be of nervous origin (herpes, vitiligo, &c.) suggest their true pathology. The most plausible theory of the origin of these lesions is, according to Leloir, the trophic one, whether they be referable to disturbance of the trophic nerves, or of the trophic centres by reflected irritation (*Centlt. f. d. Med. Wiss.* 1882, S. 621).

Letulle relates an instance of herpes in the region of the first division of the right trifacial nerve, commencing with severe neuralgia, and followed in three weeks by facial paralysis of the same side; but he appears to attribute the whole to the local influence of chill (*Arch. de Phys.*, &c. 1882, No. I). Joffroy describes in the same journal a case in which herpes of the right shoulder was followed, in the course of three months, by atrophy of the intrinsic muscles of the corresponding hand, with degenerative electrical reaction. Similarly, herpes of the left forearm was followed by severe pain in the region of the circumflex nerve of the same side, and weakness and atrophy of the deltoid.

Locomotor Ataxy.—Fresh observations to be made of disturbances of nutrition in association with locomotor ataxy. Besides the familiar diseases of the joints and bones, and perforating ulcer, there have been recorded peculiar affections of the teeth and nails, ending in their shedding.

Thus Demange (*Revue de Med.*, No. 3, 1882) describes a case of tabes in which all the upper teeth fell out in a short time, without pain of the usual kind, but with darting "lighting" pains through the face, and distubance of sensibilty in the region of the trifacial nerves.

Post-mortem, the floor of the fourth ventricle presentod sclerosis, which involved the nuclei of the ninth, tenth and eleventh nerves, the restiform bodies and some of the neighboring parts.

Sclerotic change was distinctly seen in sections of the trigeminus where it leaves the pons. In another very similar case, the loss of teeth was confined to the left side of the upper jaw. The post-mortem appearances were almost exactly like those just enumerated, but more marked on the left side. One of the instances of loss of the toe-nails is given by Joffroy (*Arch. de Physiol.* etc., 1882, No. 1). The great toes were the members affected, and there was no accompanying pain; the nails simply looking dark, with subungual ecchymosis. The part was soon restored. Pitres relates in the *Progres Med.*, No. 8, 1882, somewhat similar cases, in which, however, both great-toenails were shed repeatedly, after deep-seated dull pain, and a sensation of creeping in the affected parts for several weeks. There was no ulceration or suppuration in these cases, any more than in Jeffroy's; and the new nails were in every instance perfectly formed, with the exception of slight superficial irregularities. An interesting instance of necrosis of the phalanges of the two great toes in a case of locomotor ataxy is described by Dr. Russell, of Birmingham, in the *Med. Times and Gas.*, August 19, page 210.—*Brain.*

SURGERY.

A Case of Congenital Absence of a Forearm.—(*Virchow's Archiv.* July 1882, p. 46 *et seq.*) The small number of histories of such cases, as the above-named, induces Dr. Edinger to place the present on record, at the same time that he gives a slight sketch of the literature of the observed condition of the nervous centres after amputation of the limbs.

C. K., a male, aged 52 years, died of disease of the heart in the hospital, at Riegel. At his birth he was deficient of the left hand, and greater part of forearm. A stump of about the size of a child's fist was found in the elbow-joint, and terminated in a prominence of about the size of a bean, on which were two small tubercles. He had considerable power of movement of the stump, and as a dealer in poultry, could carry heavy baskets by means of a hook attached to the stump of his arm.

On examination, after death, the muscles of the left arm were thin, but normal in structure, and ended in a tendinous expansion inserted into the integuments. The nerves of the forearm were thin, and distributed to the muscles.

On opening the vertebral canal there was, to outward appearance, no difference between the right and left side of the spinal cord in the upper part of the cervical region, but at the point of exit of the sixth and seventh cervical nerves the left side of the cord was distinctly smaller than the right. After immersion in Muller's solution, the following appearances were noticed. The posterior nerve-roots from the fifth to the eighth cervical were thinner on the left than on the right side, only in the fifth, sixth, and seventh anterior roots the difference was equally striking. The anterior root of the eighth cervical nerve was only half as thick as on the right side.

A microscropical examination of the cord from the second to the eighth nerve was carefully made by a series of successive sections. It was at the bend of the fourth and fifth nerves that atrophy of the structures on the left side became most marked. The anterior appeared cut short and bent backwards, and was deficient in nerve-cells. The white matter was also smaller than on the right. A similar change was here observable also in the posterior horns. The highest degree of atrophy was reached about the region of the sixth and seventh cervical nerves, so that it was almost impossible to trace the cells or their processes on the left side. No trace of any other form of lesion than simple wasting of the structures was observed. The further examination presented much the same anatomical changes as observed after amputation, so that the present case is considered by Dr. Edinger to be one of intra-uterine amputation. In those the condition of the cord is that of atrophy of the cornua, their cells and nerve-roots on the side of the amputated limb. The wasted nerves and their roots could be traced to wasted portions of the horns.

The brain having been hardened in Muller's solution, it was observed that the convolutions were well marked; but on the right side the two central convolutions were distinctly smaller than on the left, in their lower half. It would seem that in this, the first case that has been examined, the atrophied region in the spinal cord has a corresponding wasted zone of the cortical substance of the brain, an observation lending support to the established facts of localization of function. Dr. Edinger sums up the lesions observed after amputation as consisting in atrophy of the nerve-roots and white substance of the cord, and of the anterior horns, with degeneration of their cells, whence diminution of the white columns from decrease in the number and size of fibres. This occurring during growth, the motor zones of the brain will suffer arrest of development.—*Brain.*

THE SILICA SPINAL JACKET.—By George R. Fowler, M.D.

Since the introduction into practice of the plaster-of-Pasis spinal jacket, many attempts have been made to so modify the original suggestion as to admit of the ready removal for purposes of cleanliness, and re-adjustment of the apparatus. All of these attempts coming under the notice of the writer are open to the objection that they require either special machinery for the preparation and subsequent treatment of the materials employed, or moulds or casts of the patient, when suspended, must be made and transported, sometimes long distances, to skilled mechanics, upon which moulds the jackets are finally made.

To Wolff, of Berlin, is due the credit of having successfully overcome, in a most practical manner, the objections so frequently urged against the ordinary spinal jacket. His method consists, essentially, of the application of a jacket of the so-called liquid glass, or silicate of potash, and immediately over this, the patient still suspended, a light plaster-of-Paris jacket, to maintain the patient in the shape, as nearly as possible, he assumes when suspended, until the setting of the silicate of potash; this latter occupying four or five days.

Having had some interesting and instructive experiences recently, in the application of this form of jacket, I desire to attract the attention of the profession of this country to Wolff's method, with some suggestions and modifications of my own. The following is the plan that I have found most available:

About a pound and a half of the ordinary commercial solution of silicate of potash is rubbed up in a shallow dish with a sufficient amount of Paris white or fine whiting to make a mixture of the consistency of cream. The addition of an ounce or two of alcohol facilitates hardening of the jacket. Strips of cross-barred crinoline, in length about three inches greater than the circumference of the patient's body, as measured around the hips, and two and a half inches wide, are prepared by being rolled into little loose rollers, ready for use. A closely fitting knit undershirt is then put on the patient, and he is suspended by the arms, or what is much better, the special apparatus designed for that purpose by Sayre, until his toes just barely touch the floor, and afford him slight but decided support. I have not found it necessary to swing the patient clear from the floor, but very little is thereby gained in rectifying the deformity, and I consider the plan not free from danger. On the other hand, if the patient is allowed to rest somewhat upon the feet, greater comfort is experienced during the application of the jacket, and all of the purposes of suspension will have been served. In truth, very few patients will be found who will submit to being hung up by the arms and neck long enough for the application of a jacket. Latterly I have even allowed them to rest lightly upon the heels.

All being in readiness, the rollers are well soaked in the silicate preparation and applied. If the patient is a thin subject, a layer of cotton wadding is placed over bony prominences to protect them from pressure. In cases of sharp angular curvature from advanced Pott's disease, this precaution should never be omitted. In lateral curvature, if it be desired to apply the principle of elastic tension to correct the deformity, as suggested by Morgan Vance, a wad of cotton may be placed *under* the knit shirt, upon the side of the spinal column corresponding to the concavity of the dorsal curve. This wad of cotton is to be removed when the jacket is ready for use. Circular disks, arranged in the form of graduated compresses, are to be similarly applied over the breasts in the case of adult females. All other cotton padding is to be placed between the knit shirt and the crinoline forming the first layers of the jacket, inasmuch as they are to be a part and parcel of the latter. I have found it convenient to begin to apply the strips down upon the hips, crossing them in front, and adapting them to the shape of the hips and abdomen. Ascending upwards, each strip is applied slightly overlapping the preceding one; when about one-fourth of the way up it is best, for a short distance, to apply the strips so as to cross behind. Of course the surgeon, in this particular, will be guided in a great measure by the exigencies of the case, the patient's shape, etc. The point is, however, not to have any reverses or wrinkles, which can scarely be avoided if the older method of applying the dressing in the shape of long rollers, is followed. By this plan of having short rollers, reverses need not be made, and with ordinary care wrinkles may be avoided. I have found it a good plan to have the patient steadied by an assistant; this obviates the inconveniences arising from the rocking or swaying movement caused by the manipulation of the surgeon.

When one complete layer of the silicate bandage is finished, if the case is one of considerable deformity, vertical strips of tin about an inch wide are placed where great strain is likely to come upon the jacket. The ends of these should be doubled back upon themselves for a short distance in order to prevent them from subsequently cutting through the upper and lower edges of the jacket. Two or more layers of the bandage may be similarly applied, a coating of the silicate being painted over each with a brush, except the last layer, which instead should be well rubbed in with the dry Paris white or whiting. A dry roller of stout muslin should then be applied, and over this a light plaster-of-Paris jacket in the ordinary way. When the latter has hardened the patient is lowered to the floor.

After a lapse of four or five days the plaster shell is removed, when the silicate jacket will be found to be firmly set. I have found a ready (and otherwise useless) instrument for removing both the plaster-of-Paris bandage and the silicate jacket, in a Heys saw. It is best to cut the plaster dressing in front in the median line for the reason that, if, inadvertently, the saw should here and there pierce the intervening layer of muslin roller, the resulting saw cuts will be in the line of incision for the removal of the permanent jacket. In sawing open the under jacket it is safer to slip a piece of sheet tin between the jacket and the skin, in order to avoid wounding the latter. The plaster-of-Paris shell should be entirely removed before attempting to slit up the permanent jacket.

Before removing the silicate jackets the undershirt, which of course will form its lining, should be trimmed off with quite a wide margin beyond the edges. This margin is afterwards to be turned over the edges of the jacket and there glued or pasted with some of the silicate of potash and whiting compound, in order to round them off nicely after they have been trimmed. The jacket will now be found to be easily removable from the patient. About a quarter of an inch should be cut from each edge of the slit in the jacket to allow for lacing: eyelet holes are to be bored with a common carpenter's gimlet at suitable distances, or, if desirable, any saddler can face the edges with soft leather, and in this shoe eyelets can be fastened.

A light, cheap, neat and durable jacket can thus be made by any surgeon, without the necessity of special material, machinery and baking ovens, or the help of the instrument maker. It would seem from the description that the details occupy considerable time, but such is not the fact; with everything in readiness, in the hands of one of ordinary quickness of manipulation, the whole dressing may be applied in a surprisingly short space of time.—*Annals of Anatomy and Surgery.*

On the Use of Naphthalin Dressings.—The numerous cases of poisoning that have followed the iodoform dressings in the treatment of wounds in continental hospitals, have induced several German and Russian surgeons to seek for a less dangerous chemical substance, equally efficacious in the dressing of injuries and operation wounds. Fischer and Djankonow advocate naphthalin as the best substitute for iodoform. These surgeons indicate that not only does it require far less complicated apparatus and manipulation than other substances used in dressing, but it is also much cheaper, a great consideration in general hospitals and in military surgery. Naphthalin is a hydrocarbon, with the formula $C_{10}H_8$, formed in large quantities in the process of the distillation of coal, and found, according to Roscoe, in the heavy oils of coal-tar. In decomposing, it falls into several organic compounds, and is widely distributed in nature; thus it is found in petroleum, chimney-smoke, and in tobacco-smoke. It forms shiny, white, rhomboid, crystalline plates, with a rather strong odor, resembling that of tar; it melts at 174.5° Fahr., and boils at 424.5° Fahr. It is not soluble in acid or in alkaline water, nor in secretions from wounds. On the other hand, it freely dissolves in cold ether, in warm alcohol, in strong sulphuric acid, and in different fixed and volatile oils. It can readily be separated from water by distillation; and, if mixed with drinking-water, it appears in the secretions, especially in the urine, where it can be easily recognized. If such urine be distilled, the water that distils over precipitates the naphthalin in crystals, on cooling. Commercial naphthalin is seldom pure, being generally mixed with phenol. Pure naphthalin should be of a slightly pink hue, according to Fischer, but Djankonow finds that the white crystals are the purest.

Fischer first employed naphthalin dressings at Strasburg. From experiments and observation, he came to the conclusion that it is an admirable substitute for iodoform. It is quite harmless when used on man, or on the higher mammalia, and possesses a high antiseptic value. In an atmosphere of naphthalin, all animal or vegetable micro-organisms are destroyed, whilst neither wounded surfaces nor the healthy structures around them are in the least irritated. Recently, naphthalin has been used at Strasburg for other purposes besides the dressing of wounds; such as the disinfection of sick rooms and closets, as a parasiticide in certain skin diseases, and as an inhalation in infectious diseases involving the respiratory organs, such as diphtheria. Dr. Anschütz, of Königsberg, has also published his results, agreeing entirely with Fischer. Whilst he recognizes its excellent antiseptic influence on granulating surfaces, he also says he has discovered disadvantages. He has found blood mixed with the pus from granulations, probably through their being wounded by the sharp edges of the naphthalin crystals. According to Dr. Anschütz, these crystals may also form a crust over the wound, impeding the escape of pus, although Fischer has never found this to occur. Both these surgeons have very seldom seen the slightest symptoms of poisoning from its use. Djankonow's observations are based on thirty cases of wounds and abscess-cavities dressed with naphthalin, and described in the *St. Petersburger Medicinischer Wochenschrift*. His method is thus carried out in operation cases. A carbolized acid spray is turned on to the seat of operation; operator and his assistants wash their hands first with soap, then with a five per cent solution of carbolic acid, into which also the instruments are submerged. Catgut ligatures and silk, as prepared by Czerny, are employed. The wounds or incisions are first saturated with a three per cent. solution of chloride of zinc, and then wool, dipped in naphthalin, is laid in the wound, and a bandage applied over it; a further layer of wool is covered by oiled silk; and lastly, a second bandage covers in the whole.

The preparation of naphthalin wool is perfectly simple. The wool is first boiled in soap-ley, and then steeped in an ethereal solution of naphthalin. Anschütz and Djankonow prefer one part of naphthalin to four of alcohol, and four of sulphuric ether. The Russian soldier employed this dressing for granulating surfaces in ten cases; five had various forms of chronic ulcer of the leg, one had a foul strumous ulcer on the chin; the four remainder had old lacerated wounds, one on the wrist, one on the thigh, one on the leg, and the fourth on the foot. All these cases looked very unfavorable when the treatment was commenced, and all the wounds rapidly became clean when dressed by this process, showing healthy granulations, and cicatrizing at once. According to necessity, the dressings were changed daily, or left on as long as for five days; in twenty recent cases of lacerated wounds, removal of tumors, excisions and amputations, the results were admirable. In none of the above cases were there any signs of ether absorption of naphthalin or irritation. In not one of the operation cases was there any appreciable rise of temperature. The secretions were never pent up by a layer of solidified napthalin as in Anschütz's cases. Dr. Djankonow particularly recommends naphthalin dressings for surgeons who, like himself, have to treat patients in hospitals deficient in funds, and an insufficient supply of nurses. We must observe that, in this country, many surgeons will attribute more than half the merit of Dr. Djankonow's treatment in operation to the use of the carbolized spray.—*British Medical Journal.*

REGIONAL DIAGNOSIS AND TREPHINING.—(Wernicke and Hahn *Virchow's Archiv.* Feb. 1882, p. 335) report a case of tubercular abscess of the left occipital region diagnosed from the symptoms which were right hemiopia, proceeding to motor and sensory paralysis of the limbs on the right side. The skull was trephined (under antiseptic precautions) at the upper posterior angle of the left parietal bone, the dura and cortex incised and an abscess evacuated. The abscess was about the size of a hen's egg, and about three teaspoonfuls of us were removed from it. The symptoms of paralysis and the general condition were at first greatly improved, but again returned before death, which took place a fortnight after the operation. The post-mortem examination showed a tubercular abscess in the left parietal and occipital region which had recently opened into the lateral ventricle. There were a few smaller softened tubercles in the neighborhood of the abscess. There were a few scattered patches of chronic tubercular pneumonia. The unsuccessful result was attributed to the unusual character of the abscess, and the absence of any capsule preventing the further extension and perforation into the ventricle.—*Brain.*

OPHTHALMOLOGY—OTOLOGY.

PATHOLOGY OF SYMPATHETIC INFLAMMATION.—By the anatomical examination of a series of eyes, when the morbid condition of one caused a sympathetic affection of the corresponding organ, Dr. W. C. Ayer's (*Arch. f. Augenhlkd.*, xi, 3) comes to the following conclusion:

There are two ways by which the sympathetic processes may be transferred, one is the optic neuritis, the other the cyclitis, or both act at the same time. Those eyes which induce the sympathetic lesion within the first 15 to 20 days, transfer first the pathological condition to the optic nerve of the eye sympathetically diseased; in the other cases, where the ciliary nerves establish the transfer, the sympathetic affection usually appears later. In nearly all such cases A. was able to demonstrate the transfer of the morbid lesion by the ciliary nerves. In the eye first diseased, always a pathological change of these nerves as found under such circumstances.—*Medical and Surgical Reporter.*

MISCELLANY.

AN EASY METHOD TO DISCOVER THE TUBERCLE BACILLI IN SPUTA.—Prof. Baumgarten has just published in the *Centbl. f. d. Med. Wiss.*, 25, 1882, the following easy method to detect in the expectorated matter of phthisical persons the pathogenic tubercle bacilli.

Phthisical sputa are dried and made moist with very much diluted potash lye (1 to 2 drops of a 33 per cent. potash lye in a watch glass of distilled water). The tubercle bacilli are then easily recognized with a magnifying power of 400 to 500. By light pressure upon the cover-glass the bacilli are easily pressed out of the masses of detritis and secretion. To prevent, however, the possibility of mistaking the tubercle bacilli for other septic bacteria, or vice versa, the following procedure is necessary: after the examination just mentioned, the cover-glass is lifted up and the little fluid sticking to its under side allowed to dry, which is done within one or two minutes. Now the cover-glass is drawn two or three times rapidly through a gas-flame; one drop of a diluted (but not too light) common watery anilin solution (splendid for this purpose is the watery extract of a common anilin ink paper) is placed upon the glass. When now brought under the microscope all the septic bacteria appear colored intensely blue, while the tubercle bacilli are absolutely colorless, and can be seen as clearly as in the pure potash lye. We may add, however, that Klebs considers his own method preferable.

As the whole procedure does not take longer than ten minutes, it is to be recommended in general practice. The consequences of Koch's important discovery become daily more apparent, and their application more practicable.—*Medical and Surgical Reporter.*

ON THE STRUCTURE OF THE SPINAL CORD.—Dr. Laura (*Archives Italiennes de Biologie*, tome 1, fasc. 2, April, 1882) commences his remarks by the observation that the acquisition of the medullary sheath is the distinctive character of all processes from nerve-cells that become nerves. His object has been to trace these processes or nerve-fibres from their cells to their ultimate distribution. His researches apply more particularly to the cells of the anterior cornua, of the Stilling's nucleus, or Clarke's posterior column, and of the posterior cornua.

The descriptive details are illustrated by explanatory plates, showing the course of medullated nerve-fibres.

The following summary places before the reader the author's conclusions:

1. The cells of the anterior cornua send their nerve-processes, in the greater number of instances, into the anterior nerve-roots.

2. Fibres from different points of both of the anterior and posterior cornua contribute to the formation of the anterior commissure.

2. The cells of the nucleus of Stilling (posterior column of Clarke) supply nervous prolongations which pass at first inwards, then after a long course in the same direction fold backwards, and go to form a large bundle passing into the lateral column.

4. The lateral column receives fibres from different points of both anterior and posterior cornua.

5. The cells of the posterior cornu furnish processes which pass in various directions: *a*, into the anterior commissure; *b*, directly to the anterior roots; *c*, into the lateral columns; *d*, into the posterior columns; *e*, across the middle line behind the central canal into the opposite cornu.

6. Cells are found in the cord which send nerve-processes in opposite directions, and act intermediately in the change of direction of the fibres.

A copious bibliography concludes this essay, which embodies a series of observations, modestly spoken of by the author as not very numerous, but which, considering the complexity of the investigation, may be regarded as an important contribution to the histology of the spinal cord.—*Brain.*

THE GREAT CHARACTERISTIC OF MODERN MEDICINE.—In the course of the Introductory Address at St. Thomas' Hospital, Mr. J. Seymour Sharkey said: "And now, gentlemen, if I were asked what is the great characteristic of modern medicine, I should say that it consisted in the union of anatomy, physiology, chemistry, physics, and pathology to form the compound science of medicine, and in the clear appreciation of their necessary inter-independence.

"There was a time, and that not so long ago, when most of these subjects were thought to have but little to do with the actual practice of our art; when physiology and pathology were talked of rather as subjects to be mastered by a few learned professors, to be more or less familiar to a certain number of leading practitioners, and to be all but ignored by the great mass of the profession. But things are so no longer."—*Medical and Surgical Reporter.*

Obituary.

CHARLES D. WINANS.

Mr. Charles D. Winans, a student of the Medical College of Ohio, died at the Good Samaritan Hospital, in this city, of typhoid fever, Thursday, December 7th, 1882. A meeting of the students of the College was called and the following resolutions were adopted:

WHEREAS, Death has removed from our number our friend and fellow student, Charles D. Winans, of Muncie, Ind., be it

Resolved, That in him the Medical College of Ohio has lost an earnest and faithful student and we a highly esteemed friend and companion and that in token of our respect his chair be draped in mourning for a period of thirty days.

Resolved, That we tender our sincere and heartfelt sympathy to the parents and friends of the deceased in their great bereavement.

Resolved, That a copy of these resolutions be presented to the parents of our late brother, and that the same be published in the LANCET AND CLINIC and the *Muncie Times and News.*

J. M. WITHROW,
A. E. HEIGHWAY, JR.,
RINGTON DAVIS,
J. R. TUTTLE,
R. M. THOMAS,
} Committee.

RICHARD ORMSBEE, M.D.

DIED, at Springfield, Ohio, December 10th, 1882, Dr. Richard Ormsbee, in the twenty-fourth year of his age.

Clinical Lectures.

GOOD SAMARITAN HOSPITAL. MEDICAL CLINIC OF PROF. JAS. T. WHITTAKER.

DELIRIUM TREMENS.

E. M. G. Aet. 29, resident of this city, occupation inventor, admitted November 25, 1882.

When admitted patient was wild and delirious, thinking that he was an engineer running an imaginary train to Fort. Wayne, shouting orders to the firemen, working the levers, and acting in a most excited manner generally.

His movements were quick, his eyes were staring, and his speech thick and rather incoherent; his attitude was vigilant.

He was given chloral gr. xxx and bromide of potash gr. xv on entering, and he soon became quiet. The dose was repeated, at bedtime and he got a good night's sleep.

October 26th. Patient very quiet, but feels nervous as he expressed it. There is considerable trembling of the muscles of the arm and tongue. The pupils are dilated. He still sees objects but knows them to be illusory. He covers up his head and thus he says he shuts them out of his view. He slept a greater part of the day.

October 27. The patient is still improving and talks very rationally. He has no illusions now, but complains of a neuralgic pain in the region of the heart.

His stomach is also disordered.

He was given small doses of bromide to-day, also cinchona in ʒii doses *ter die.*

Patient says his drinking is always periodical. He never takes anything between times, and his present attack came on after a prolonged debauch.

Gentlemen:—The history of this case as just read to us by Dr. Paulding elucidates the fact that generally, when delirium tremens makes its appearance, it is one of a series of attacks. This man had a furibund delirium, hallucinations and insomnia. These symptoms are characteristic of the disease; first, we have the delirium; secondly, the tremors; and thirdly, insomnia. These three form the tripod, on which the recognition of the disease rests. We may add a fourth prominent symptom, namely, absence of fever-apyrexia, making with the other three just mentioned, the four cardinal symptoms.

The term delirium tremens was given to this affection by Sutton; the two words expressing the first two most characteristic signs.

Sometimes we cannot ascertain just when the first attack proper comes on, as there is a stadium prodromorum; the patient manifests a spirit of restlessness, he cannot sit still, has fits of uneasiness with gastric distress. After this comes the delirium, a series of hallucinations; the patient sees animals of different kinds, the so called "snakes," although I have never yet had a patient who said he saw snakes. Generally, the animals appear of smaller size as beetles, bugs, etc., and it is not the size but the number of them that annoys him; every space being filled with them. It is not often that he sees a monstrous animal, but every inanimate object becomes animated, so that the illusions are very marked. An illusion, you know, is when the patient actually sees an object, but mistakes it for something else; a delusion, when he sees nothing but imagines something. This delirium passes away after a while, but sometimes the patient remains insane, a more or less permanent psychosis persisting.

After or with the delirium we have the second symptom, tremor. The patient trembles when he holds out his hands; the tongue cannot be held still. In this case it still fibrillates, but in marked cases it comes out in jerks and is immediately retracted. The tumors attack also other parts of the body, and if they are very violent the patient cannot stand, but falls over. In mild cases you may test the presence of tremor by directing the patient to hold out his arms straight; this is a good test, because it requires a powerful concentration of nerve force to hold them perfectly still. If a patient can do this, you may be sure he suffers from no great disturbance of the nervous centres.

The next prominent symptom is insomnia.

The patient complains of inability to sleep, and generally you will find that he has not slept for many hours or days. This condition is often ushered in with vertigo, a dizziness of the head, of which the patient also complained, and extreme restlessness. Just as the nervous system is about to refresh itself in sleep, horrible visions appear and rouse him with a start, a shudder, and sometimes a shriek.

The fourth cardinal symptom is apyrexia. The pulse is full and bounding, but there is no elevation of temperature, no fever. This is a very important symptom and well worth remembering, as there may be other conditions in which delirium and tremor are present, but these are then associated with fever. Thus in septicæmia the delirium and tremor are typical, but there is also a distinct, if irregular elevation of temperature.

These then are the four marked symptoms by which a case of delirium tremens from alcoholic intoxication ought to be recognized and though the diagnosis is sufficiently easy, sometimes cases occur where it requires close examination to determine whether an individual is stricken down by simple alcoholic intoxication or uremic poisoning, apoplexy, sunstroke or trauma. It has not infrequently happened that individuals have been locked up in jail under the charge of being drunk, died, and at the post mortem examination it was found that the patient had not been drunk at all, but had suffered some injury about the head. These cases make mortifying disclosures for the physician in charge.

Not long ago a man was found in this city in a state of unconsciousness propped up like the hunchback in the story in a doorway. He was taken to prison on the charge of being drunk and afterward it was found out he had been shot in the brain. We must be therefore very careful in distinguishing alcoholic intoxication from other affections which often greatly simulate it. Sunstroke occurs only in hot weather of course, but not necessarily from the direct rays of the sun, as many cases occur in tenement houses at night from the effect of excessive heat; consequently it is more properly designated heat stoke. The elevation of temperature which is here always very marked is sufficiently diagnostic. The state of the pupil is often a point of diagnosis; in apoplexy the pupil is contracted; in acute alcoholism it is as a rule, dilated. Uremia may be sometimes mistaken for drunkenness; we determine it by drawing off the urine with the catheter to find if it contains albumen, and tube casts. You may here however, incur another difficulty, as drunkards often are also uremic; you then, as always judge by the odor of the breath, which reveals the presence of alcohol or some of its ethereal oils. For it is a question if alcohol be ever expelled with the breath.

Sometimes other symptoms besides those enumerated are present in alcoholism, as for instance gastric disturbances and pain or paresis in those parts subject to continued pressure as in the arm when the individual has been resting his head on the arm. The gastric distress shows itself in the vomited matter near.

Alcohol exercises a direct influence on the nervous system; it enters the blood directly from which it is carried to the nervous centres, but it is never found in the lymph channels. The first part that suffers is the cortex cerebri, the motor centres which give rise to the delirium and tremens. The medulla receives the final explosion of the poison so that when the patient succumbs to a fatal dose he dies of apnœa. The brain suffers especially in acute alcoholism, because it contains the most alcohol, next to the liver, of all the organs in the body. Ducroy has shown that if we represent by 1 the quantity of alcohol present in the blood, that in the brain, will be 1.32, and in the liver, 1.34.

How much is really a lethal dose of alcohol is hard to say. Two tablespoonfuls of a sixty per cent solution are said to have killed a child, but an adult can dispose of two ounces of alcohol in the twenty-four hours as food. It is the concentrated form that causes the disease, not where it is strongly diluted. For we find that in those countries where it is constantly used as a beverage in a diluted form, delirium tremens is almost unknown.

The prognosis mostly favorable, always in a strong young man without complication as in this case. Furibund delirium is, however, often due to complications as meningitis pneumonia or pleurisy contracted from exposure while in the state of intoxication. This renders the prognosis more grave, but the most dangerous complication is the presence of meningitis.

Patients in a furibund state will often make attempts at suicide. In order prevent this we use just as much strength as is necessary to put the patient under control and no more. In sea-port towns where cases are most frequent, they are often locked up in a bare room with padded walls, where they are allowed to wear themselves out without injury. In private and ordinary hospital practice this treatment cannot be carried out, but a few able bodied men relieving each other from time to time, will generally succeed in exercising sufficient restraint.

As regards other agents, we rely on those substances which will first of all give the patient sleep. Opium is the sheet anchor, unless it is contraindicted by some complication as meningitis, when it must not be given. It is astonishing how much individuals in this affection can take. It must as a rule, be given in large doses and preferably hypodermically because it can thus be best regulated; none of it being rejected. Inject about one-half grain of morphia always deep under the skin and leave the patient to an assistant; in the course of an hour, if he is not yet asleep, another quarter of a grain may be given. If the patient falls asleep and his breathing becomes stertorous, open his eyelids to see if they are much contracted. If they are, stay, as it would be criminal to leave him when there is danger of opium poisoning. You need not walk him about, or drench him, or use flagellation, but simply call his name loudly in his ear repeating this from time and watch the pulse and respiration. The latter ought to be at least ten to the minute before you can risk it to leave him.

In the vast majority of instances we have, however, milder remedies for milder cases, and one is chloral. It must be given in large doses at least thirty grains up to a drachm, which will usually control the excitement in one or two hours.

In a certain class of cases, however, we fear chloral on account of its action on the heart, as for instance, in individuals with a fatty heart, common in old sots. Here we may stimulate the heart best by opium, or if we want a mild preparation, bromide of sodium may be given in doses from thirty to sixty grains.

In the majority of cases it is best to begin with chloral. If there be much gastric distress we may apply a rubefacient to the epigastrium, and internally give iced milk, soda water, champagne, or if there be much prostration, alcohol itself in some form or other, gradually, however, withdrawing it.

Alcohol differs in its action on the system from tobacco, The former after a time leaves permanent lesions whilst the latter allows an entire *restitution ad integrem*. Whilst the poisonous action of nicotine passes off entirely, alcohol makes indelible impressions. These are points which you may impress upon intelligent patients, and they are more valuable than temperance lectures. The first effects of alcohol are known to everybody. They are a sensible exhileration and exaltation of the functions of the brain for some time. It does away with apathy, indifference, and selfishness, and is therefore resorted to in convivial gatherings. As this effect passes off, reaction takes place, stupor and blunting of sensation set in. When profoundly under its influence the individual becomes careless of himself and of public opinion, and displays his predominant traits. Whence is the saying: *In vino veritas*. Under such conditions the worst passions may creep out, and the worst crimes committed.

But used and not abused, alcohol is a benificence in health as well as disease. Many a worn and jaded physician knows its virtue in personal experience, and how and when to take a little wine for his stomach's sake, which organ breaks down so soon in the preoccupations of professional life.

"Wise men use it; fools abuse it."

SURGICAL CLINIC OF PROF. W. W. DAWSON AT THE GOOD SAMARITAN HOSPITAL.

[Reported by T. R. COFFMAN, M.D.]

PYOGENIC MEMBRANES—POST-RECTAL ABSCESS.

This patient, aged 29, is, as you see, in a condition of fair nourishment. Some months ago she was seized with inflammatory action in the lower and posterior part of the pelvis, in the neighborhood of the coccyx—between it and the rectum. Soon a tumefaction appeared which gave great suffering. After a time it broke into the bowel, and has been discharging a villainous pus ever since; the discharges usually occur with defecation, but occasionally the cavity fills and finds its way out by falling into the rectum; its evacuation is imparative.

By an examination through the anus, it is just possible to reach the opening with the extremity of the index finger, firm pressure being required. Its opening is about three lines in diameter—large enough to admit a No. 12 English scale catheter. We have never been able to entirely empty the cavity. When a tube is introduced from six to ten ounces are withdrawn, but a portion still remains. That which is last withdrawn is most offensive; the odor rendered a whole room so disagreeable that Dr. Coffman was compelled to resort to disinfection. The combination of the essential antiseptic constituents of Thyme, Eucalyptus, Baptisia, Gaultheria, mentha Arvensis and Benzo-boracic acid, known by the name of Listerine, proved to be the most effective.

What is the trouble here? Why don't this matter find its way down through the loose tissues which surrounds the bowel? Pus, you know, which escapes after a break in the walls of the rectum, produces great irritation in the peri-rectal, intercellular substance, and soon appears in the ischio-rectal space as an abscess. The tendency of pus is to find an outlet—to reach the surface—why does it not do so here? This matter is, as you observe, when I draw it off, not only offensive, but it is acrid and seems to be composed of degenerated corpuscles, thin serum and a few healthy pus cells; it is far from the "Pus bonum et laudibile" of old authors. One would think that such a fluid would be irritating enough to press its way through any kind of tissue; nevertheless, it does not; it remains corralled within a Pyogenic membrane. This membrane holds it like the bladder does urine. You see the same thing in cold abscesses:—in them the matter is simply confined, and may remain in a passive state for years, being known only by size. The fluid in them differs very much from that which we find here, but the conduct of the membrane is the same; it proliferates, or forms, or gives birth to pus. Its walls, according to surgical pathology, are constantly being changed into cells, and plastic lymph of low grade reinforces the dissolving neoplasm.

In the case before us, when the sac fills up, even with the opening, then the discharge occurs; but never, as I have said, is the cavity emptied. I have found it impossible to do this, even with the best means of evacuation, some portion would still remain, and that which is left is most offensive, but not in proportion to the time it remains, it very soon becomes fetid. The pus seems to be modified by its proximity to the rectum. This is true of all such collections in this neighborhood. Open an ischio-rectal abscess, and you will be surprised at the offensive character of the discharge; this is so commonly the fact that it amounts to a rule.

Recurring now to this case, how can it be relieved? Not by cleansing; and washing that has been tried by Dr. Coffman for two months; no results.

A permanent drainage must be established so that the matter will drain off as fast it is formed. This can best, in fact, can only be done by tapping the cavity and establishing a permanent route in the rear of the rectum.

I now, as you see, introduce through the rectum into the sac opening, a curved director in the shape of a hook, thus fixing as well as may be the parts; this is held by an assistant. A broad scalpel is inserted one inch behind the anus, and passed upwards until it strikes the director, this assures me that the cavity has been reached, not only this, but the odor of the fluid, mixed with the blood, following the knife, gives a reassurance.

By pressing firmly I can introduce the index finger into, and with it can sweep the internal surface of the sac, only the lower part of it however, as it extends upwards to a considerable distance. The surface of the membrane feels as smooth as that of the urinary bladder, and this is one of its peculiarities to which I desire to call your attention. Its organization is so high as to give it resisting power, and it is formed to proliferate pus, and then has the ability to retain it, to "hold it," to use a common phase.

This dissolving and reforming, this ever dieing and constantly renewing membrane is very different from that filmy structure which Sir James Paget describes as lining ordinary abscesses, and whilst that distinguished pathologist admits the comparatively high organization of these pseudomembranes, illustrating, in his work by a diagram, their circulation, he hardly gives them that conspicious place amongst morbid products which they clinically deserve.

The drainage now being fairly established, it must be maintained, this may, probably, be done by throwing daily a stream of water through the track, if this should not be sufficient, a drainage tube or a fillet will have to be introduced and retained in position. My esteemed colleague, Prof. Reamy, not long ago found it necessary in a case where drainage was essential to success, to prepare a tube with a retaining button or flange at the end.

As heretofore said, in acute or sub-acute cases pus, *Cæteris paribus*, seeks the surface sometimes however it takes the planes of a fascia, again it dissects a muscle, surrounding it, filling its pericellular tissue, but not invading its body, but here, as I have said, it literally constructs its own surrounding and one which will resist indefinetely. In the scrofulous abscess also the cheesy fluid enveloped by its capsule, shows no disposition to escape, giving rise to no subjective symptoms whatever.

What shall we use as a wash—to flush the cavity—to promote healing? Water for the purpose of cleansing may be sufficient, for cleanliness and drainage are the important factors in the process of repair, but disinfecting will be necessary for the comfort of the patient as well as the physician. I will request Dr. Hirons the Interne to use Listerine or a weak solution of Carbolic acid.

What was the cause of this abcess? There is no history of a trauma; she has never borne a child; hence, we cannot attribute it to the bruising, straining or stretching of parturition. Sometime before the appearance of this inflamation, she had however, an attack of fever which she supposed was typhoid.

We must exclude every thing then but that inferential, but still satisfactory hepothesis, embolism, a fixed or wandering clot, a thrombus. The prodromic state of the patient makes such solution probable. Her family had typhoid fever, doubtless well marked, but she had continuous fever for but three weeks; her bowels were costive. Your gifted teacher of Medicine, Prof. Whittaker, has told you that in typhoid fever, the bowels are in an opposite condition. To that fever, however, we must look for the cause of this abscess, from it doubtless was developed the clot which, acting as a centre of irritation, drew the blood to this point, but whether the vile pus, which is discharging here, is from a "proliferation of cells," or the "migration of cells," or the "exudation of plasma" or from "liquifaction of solid tissue," I cannot say, but of one thing we may be sure, most of the original cells are now necrosed. Show some of this fluid to your accomplished pathologist, Dr. Kebler, and he will tell you whether it is composed of dead white blood corpuscles.

What else is needed in the treatment beside attention to the cavity? Really nothing. The patient's general health is good. When you look at her healthy complexion you can scarcely realize that she has for more than four months been daily making and discharging from six to ten ounces of this offensive material.

This cavity will be washed every day, and soon we hope to find it contracting, closing from above. Writers on surgical pathology do not estimate these adventitious structures–pyogenic membranes at their true value—troublesome ones are by no means uncommon to Clinicians. They are sometimes, however, conservative, controlling matter which if allowed to wander would do great mischief.

The juniors in the class will ask why does not blood poisoning always occur from long standing reservoirs of bad pus? The answer is to be found in the low vascular character found in the walls of some. Such form and suppurate, but in them are hardly to be found open lymphatics and veins, the currents through which the system is invaded. In one variety, to which we will refer directly, when exposed to the air, sepsin is formed, a febrile marasmus comes on, which soon develops all the symptoms of pyæmia.

But to return to the study of the history and progress of this case. The abscess here, subacute in the beginning, finally made a spontaneous opening, but at a point so high that discharge occurred only by overflow, and by the pressure of the feces during defecation. There was no disposition to repair, it is doubtful whether the cavity contracted at all under two months of daily washing and disinfecting. It would not be an unreasonable proposition to affirm that this pus-forming process, under non-interference, would have lasted the lifetime of the patient, rendering her existence wretched.

These membranes exist under several forms: closed cavities, open cavities, fistulous tracts, subacute and chronic. They differ in treatment as they do in pathology.

(1) Those which surround the poor pus of cold absceses Billroth says, are formed from wandering cells with a formation of a fluid inter-cellular substance. The contents are of low grade, rich in granules, but not abounding in well developed pus cells. When that distinguished author says that they rest quiet for years, may never in fact reach the surface, he states the experience of every practitioner. Sometimes when these membranes cease to proliferate, the pus undergoes a fatty degeneration and assumes a cheesy form. These results may occur without pain, discoloration or elevation of temperature, the action is chronic from the initiative. Evacuation is sufficient for cure in such.

(2) Fistulæ of long standing are lined by a fluid producing structure. It is impossible to close one of these tracks until the improvised membrane is destroyed or so damaged that it will give place to healthy granulations.

All physicians will appreciate the fact that an incompletely supported bubo is followed or attended by a sinus, by one of these intractable structures. A case of the kind was presented to me but yesterday, which had been discharging for more than one year.

(3) Acute abscesses begining in the infarction around a thrombosed vessel may degenerate into a chronic state, and during this metamorphosis a change is made, the filmy lining of an acute abscess is replaced by a comparatively dense pyogenic membrane. The pus often becomes putrid before it finds an outlet. Should the opening not be at the most dependent part, then no limit to the discharge of matter can be given—its continuance will be indefinite.

(4) In spinal ulceration, carries, the debris taking its course downwards is finally arrested by an improved barrier—wandering cells gathered to form a plastic exudation in the inter-cellular tissue. It usually stops near Pouparts ligament and here it may remain for years. One was recently under observation, it was painless and did not interfere to any considerable extent with walking.

The destruction of the Pyogenic membranes in 1, 2, and 3 is a conservative practice, and leads to restoration, the obliteration of tracks and cavities; but in the latter form, (4) the commonly termed Psoas abscess, that receptacle of the pus from suffering vetebræ, evacuation gives new force to the destructive inflammation; the reason you can infer at once; the membrane before passive, after being incised begins the formation of pus—this then is added to the original disease. Billroth states this clinical fact with great force when he says, "The mode of healing, above indicated does not take place with desirable rapidity but unfortunately, the general and local conditions are occasionally of such a nature that after the evacuation of this pus, acute inflammation, with fever, attacks the abscess and pyæmia comes on, or else in spite of the evacuation of the pus the chronic ulceration goes on slowly but steadily. Billroth here recognizes the fact that a pyogenic membrane will, if the case does not soon end in destruction, last for years—its exudations mingling with those from the original seat of vertebral caries.

CLINICAL LECTURE DELIVERED AT THE GOOD SAMARITAN HOSPITAL

By Prof. Jos. Ransohoff, M.D., F.R.C.S.

Psoriasis Vulgaris.

Gentlemen: You see before you a man, fifty years of age and apparently healthy. He gives us a good family history, and is not aware of any tendency to cutaneous diseases among his kin. Willing to admit that he has had frequent opporportunities of contracting venereal diseases, he concedes that he had a suppurating bubo ten years ago and repeated attacks of gonorrhœa before and since. But the affection for which he seeks treatment can be dated back to the early youth of the patient, and cannot, therefore, stand in any causal relationship with said diseases, as I shall show you later on. The lesions that disfigure this patient now, are not due to syphilitic taint, and I shall endeavor to impress upon you the importance of distinguishing them from somewhat similar manifestations, that speedily follow in the wake of the initial hard chancre.

Now that the patient is undressed, you will observe that the eruption is universal and is displayed over the entire body; the scalp, the trunk, the extremities and especially the extensor surfaces of arms and legs, and the dorsum of the feet and hands are invaded. It is not only symmetrical, but involves more or less the entire integument. You see the spots are of all sizes from a pin's head to that of a silver dollar and even larger. When you see these cases for the first time always examine the spot most recently formed, and therefore is of small size. Take for instance, a single spot on the dorsum of the hand. You see it is the size of two or three pin's heads, it is circular with the edges reddened. When you scratch the surface you get a greyish, mother-of-pearl like production; it is scaly in character and looks like flakes of unpolished silver. For this reason the disease is known to the laity as the *silver letter*. These scales are slightly elevated, and when they are removed we expose the corium proper, covered by the deepest layers of epithelial cells. The exposed surface is perfectly dry, but when the scratching is continued longer, two or three minute drops of blood appear from the ruptured distended capillaries. Where the lesions retain such modest proportions the disease is called *psoriasis guttata*. They are greyish white in character, resting on an inflamed base and look like bits of mortar thrown on the skin. Finally they increase still more in size until they attain the dimensions of a silver half-dollar, when the variety is termed *psoriasis nummularis*. An interesting and rather rarer efflorescence of this disease appears here on the dorsum of the foot. The margins are distinctly elevated and the center gradually takes on the normal appearance, as in herpes circinnatus; you observe here the same ring like tendency as in herpes, and therefore, the term *psoriasis circinnatus* is justly applicable to this particular patch. These larger spots from patches measuring six inches in length and three to four inches in diameter, and are made up of confluence of smaller ones as seen when the scales are removed: This case then is a typical illustration of the disease called *psoriasis vulgaris*, with the greatest variety in the configuration of individual lesions.

Now what is the nature of this affection. Histologically it is a localized hyperemia of the corium with an effusion of small cells along the blood vessels. In addition there is a perversion of the cell life of the epidermis itself. If it were examined microscopically it would be found to depend on a hyperæmia of the blood vessels of the papillary layer of the skin. The pearly spot is nothing else than a cell proliferation of the deeper cells of the epidermis, the Malpighian layer.

Etiologically the disease is very obscure notwithstanding the fact that its non-contagious character was already known to the great Jewish lawgiver. In Vienna and Austria the disease develops most frequently among people who live upon animal diet and fare well.

You observe, too, that this man is otherwise perfectly healthy, although he has had this eruption for many years. This is the rule; persons suffering from psoriasis are generally of good physique and have good family histories. Sometimes, it is true, there is a dyscrasia, but this is exceptional. The disease unquestionably depends on a disease of the blood current. There is a decided tendency towards transmission from parent to offspring, not like that of syphilis where all the children are apt to be affected, but one child of a psoriatic father may have the disease while the others remain free. Sometimes it skips two or three generations. Frequently it is associated with gouty manifestations, and its victims are occasionally subject to rheumatism or kidney disease, but this is not so common as in eczema. Why do we entertain the view that psoriasis depends on some abnormal condition of the blood? Because (1) there is always a tendency to relapses; (2) the symmetry of distribution shows that it depends on the circulating fluids, and (3) the most decided tendency to appearance of the disease in other families.

To establish a differential diagnosis there are several characteristic features: (1) the symmetrical distribution just referred to; (2) that when the eruption is slight it has certain fixed positions in which the disease develops. When the entire surface is clear if we examine the extensor surfaces of the elbows and knees, we usually find two or three illy defined psoriatic patches; (3) no matter how much they vary in outward conformation, they all present precisely the same appearance; an irregular reddened patch, with a mother-of-pearl like covering. They are often large in number, so that when a patient arises from his bed in the morning the scales may be brushed off of the bed-clothes, or if he undresses himself they are seen in large numbers on the floor, just as you see them surrounding the spot on which this patient stands. This abundance of the scales is characteristic of the affection; (4) after this comes a dried chorium and then an effusion of biood from hyperæmia of the capillaries. It never changes from the appearance of the original lesion; it is always a dry eruption, never has a moist secretion, never an ulcer, never leaves a scar. When the hyperemia disappears the skin becomes perfectly clear and leaves no after-lesions. It is always in the beginning situated in the extensor surfaces of the limbs and this distinguishes it from the falsely called psorisis syphilica, a case of which I showed you a week ago. Here it is on the flexor surfaces, on the palms of the hands and soles of the feet.

In the ordinary form of psoriasis the color is bright and pinkish whilst in the syphilitic variety it is dark and coppery. The latter never has such enormous quantities of scales as the former; there are a few dirty, grey spots, whilst here they are large, clear and silvery. In syphilitic psoriasis the scales are not so easy removed, but adhere to the skin and no such bleeding follows their removal. As said before the distribution is different; when the palms of the hands and soles of the feet are affected, a syphilitic basis must always be suspected as causing the cutaneous lesions. Besides, in syphilis there are concomitant symptoms which are here wanting. There are no mucous patches in psoriasis vulgaris, and the lymphatics are never involved. Here the disease is so well marked it cannot be confounded with anything else except possibly here in the leg of this patient with an eczema. But then the scales of this latter disease are of different character; in eczema they depend on a dried secretion which is additional to the epidermic scales. They are few in number and rest on an infiltrated corium. They are dirty in appearance; the moisture preceding the dryness. To mark the difference I show you this case of eczema in a young girl. You see the skin is infiltrated and thick so that it cannot be picked up in a fold. The scales are not clear and well defined as in the case of psoriasis, but they have a dirty yellowish appearance due to the admixture of epithelium with the dried secretion from the eczematous surface. In eczema there is moreover, usually an intolerable itching which like all other subjective phenomena, is usually absent in psoriasis. When the eczematous surface is scratched there is exposed an oozing surface, but no hemorrhage.

The prognosis in psoriasis is favorable as regards life, but unfavorable as regards cure. Sometimes, but very rarely, patients succumb when the disease comes on very suddenly and is general, but such a termination has been witnessed but by few. If by the word cure is meant the prevention of its reappearance, the prognosis is always unfavorable. In this patient the eruption may be made to disappear in six weeks but in six months it may have reappeared and be just as well pronounced as you witness to-day.

When we come to consider the treatment we divide it into local and constitutional. The first thing to be done in every case is to remove the excess of epidermic accumulation. This can best be done by putting the patient in a bath for one or two hours every day. Unfortunately, however, the majority of cases cannot submit to such treatment, owing to the want of the proper conveniences. In that case the patient is to be wrapped in cloths well saturated with water or some unctious material like sweet oil or cod liver oil. The removal of the scales can be greatly facilitated by the use of agents that liquify the accumulation of scales, as the green soap or alkalies (liquor potassæ) in weak solutions. Green soap applied to every patch, no matter how inveterate, will remove it in twelve to twenty-four hours. It may be applied with a bit of flannel. If it produces too much irritation of the skin, it may be applied in alcoholic solution (sapo vir. ℥ij, alcohol, ℥vi). After the tendency to inflammation is reduced it is proper to resort to the use of some stimulating ointment like pix liquida, the oil of cade, or what has been recommended more recently, chrysophanic or pyrogallic acid, especially the former in ointment form. Chrysophanic acid (gr xx to ℥i) acts admirably in almost all cases of psoriasis; be careful however to keep it away from the scalp, face and genitalia, because it causes swelling of these parts and stains the spots to which it is applied brown, a result which is especially disagreeable in the face. After a while you may change to pyrogallic acid which is not so valuable but less irritating. Preparations of tar are among the most valuable agents in the treatment of this affection, but they are objectionable on account of their disagreeable odor. Hence many patients will not use them. A little cologne water will effectually disguise the odor, oil of cade ℥i, green soap ℥i, spts. cologne ℥vi.

In considering the internal treatment appropriate to each individual case, the condition of the patient irrespective of the cutaneous affection is to be closely scrutinized. In young persons of spare flesh, with pallor of the cheeks and white conjunctivas, iron in conjunction with arsenic is indicated. When on the other hand, the cutaneous affection is found to co-exist with rheumatic or gouty tendencies, restriction in diet and beverages are to be advised. Here, likewise, alkalies and the alkaline mineral waters are indicated. So far as any specific agent for the treatment of psoriasis is concerned, arsenic is that in which all our hopes are centered. When judiciously given it is the great sheet-anchor of success. Time and again will it lead to the disappearance of an eruption of psoriasis, and when properly administered even nip the attack in its inception. How will you give it? For my own part, in private practice, I almost invariably prefer the use of the renowned Asiatic pill, containing $1\frac{1}{10}$ of a grain of arsenious acid and one grain of black pepper. One of these pills taken before each meal can be given for a long time and with greater ease and convenience to the patient than the Fowler's solution which is usually given. Arsenic should, however, not be administered while the scales still appear on a reddened base, surrounded, as it were, by a bright-red halo. After the complete disappearance of the eruption, keep the patient for months upon arsenic, and you will do much to prevent a speedy relapse. It goes without particular stress being placed up it, that no patient should ever take arsenic for more than four or five days at a time without being under the observation of his medical adviser.

CLINICAL LECTURE DELIVERED AT THE GOOD SAMARITAN HOSPITAL.

By W. W. Seely, A.M., M.D.

ECTROPION.

[Reported by Dr. W. H. Wenning.]

Gentlemen: This patient has an ectropion of the lower lid of the left eye, the result of a burn received when a child two years of age. You notice the cicatricial condition of the skin below the lid, on the forehead and temple of the left side. The lower lid has been pulled down away from the eye. Cases of ectropion may occur from different affections of the lids, blepharitis as well as other palpebral diseases. I had one case where the lower lid was flat with the skin of the face, an instance of extreme ectropion, the result of a blepharitis. In another case the upper lids of both eyes were drawn up and both the lower ones drawn down, all four of the lids being everted, and giving the man a most hideous appearance, as the result of a cicatricial contraction after a burn from an explosion. Consequently, no matter what the cause, the result is the same.

In operating for this condition you must endeavor to turn in the everted lid by relieving the tension holding it bound down by the cicatrix. This cicatricial tissue may be made to slide as well as other parts of the skin, if there is only enough tissue left that will slide, and it is always then preferable to transplantation. The skin, of course, as well as the conjunctiva can be transplanted (as you saw the other day), the skin may be taken from one part of the body and placed at another without necessarily having a pedicle; but it is always better, if it can be done, to slide the skin upwards to relieve this deformity.

A V-shaped incision is made from each angle of the lid with the apex pointing downward. After this the resulting flap is dissected off from the underlying connective tissue and slid upwards bodily until the everted lid is turned in upon the eyeball. In order now to prevent this loosened flap from sliding down again, the denuded portion, between the original incision and the present site of the triangle, must be covered by the neighboring skin. This is done by dissecting the skin external to the incision for some distance from its connection with the underlying tissue. This skin is then drawn together with sutures and the upper portion united to the two sides of the raised triangular flap so that the latter is held up in its place. The mucous membrane of the everted lid will soon again regain its softness and suppleness without any further attention, as soon as it is protected from the air. You must stretch the skin considerably to approximate its edges together, but you must be careful not to have too much tension. If the skin be too tight you can relieve the tension by making a vertical incision on either side.

One point is of great importance and apt to be overlooked; and that is the condition of the lachrymal apparatus. In this case no punctum could at first be seen; I then took the canaliculus knife and pierced the epithelial covering, fortunately striking upon the punctum the first time. This will have to be kept open to prevent any epiphora of tears.

Correspondence.

FOREIGN NEWS.

Vienna, December 1, 1882.

Editors Lancet and Clinic:

Since the days of the immortal Harvey or the great benefactor Jenner there has been no such excitement in the medical world as there exists now. The innocent cause of all this turmoil is found in micrococci, infinitessimally minute vegetable parasites, which were claimed to be the causes of many diseases, especially the infectious ones. This renewed excitement was due to the fact, as every one knows, that Koch, of Berlin, announced on the 24th of March, 1882, that he had succeeded in finding, by means of a peculiar method of coloring a specific cause for tuberculosis in a parasite which he called the *bacillus tuberculosus.* At the time when Koch made known his discovery to the medical world, the wisest, coolest and most scientific of the profession, especially those versed in microscopical work, shook their heads and, instead of blindly hugging the new-born parasite, said "wait." Even now many still stand on neutral ground.

Many years will be required to substantiate Koch's experiment undisputably, and make the new parasite the recognized cause of tuberculosis; many years more will be required to change the old staid treatment of the disease and many more years will elapse before the suffering multitude will be benefited by this new discovery after it has become undisputed ground. It was not, however, to write about the parasite of tuberculosis, on which subject a volume the size of Webster's Dictionary might be written, that I began this letter, but to offer a few remarks on a subject which perhaps might interest some of your readers, viz.: the relation of micrococci to diseases of the eye, which of late again has acquired new importance by recent experiments.

It is nothing new to the reader that ulcerations of the cornea, acute blenorrhœa, and the so-called trachoma, etc., have all been attributed to the influence of micrococci. Of late Leber, of Göttingen, even went so far as to say that sympathetic trouble was due to micrococci traveling along the sheath of the optic nerve to the chiasma and back along the other nerve to the opposite eye! If a man less renowned than Leber in the profession had proposed such a theory, it would not have been considered, perhaps never seen the light of day. Even now I venture to say that most men have forgotten all about it and the whole theory has died a natural death, "plus" the micrococci, of course.

About a year ago Sattler, of Erlangen, announced that he had discovered the micrococcus of *Trachoma*, that dread disease, so barbarously and variously misnamed, that brings years of unalleviated suffering to its victims and furnishes the blind asylums of the world with a large number of inmates. Sattler announced that he had found this micrococcus both in the secretions and in the granulations themselves, somewhat different from those found in acute blenorrhœa.

Are then these micrococci the direct causes of the disease is a question which naturally arises and one of the most difficult to answer. I venture to say that science seldom had a more arduous task, or a more difficult question to solve, than when it began to waylay these delicate micro-organisms, only made visible by the highest and most perfect immersion lenses, by the most delicate manipulations and the most accurate stainings.

About one month ago F. Krause published in the *Centralblatt*, edited by Hirschberg, of Berlin, a series of experiments which show directly opposite results to those of Sattler. Krause performed a series of experiments under the supervision of the now celebrated Koch, which were conducted with the utmost care and with the finest instruments of precision that the laboratory at Berlin could furnish. Krause cultivated the micrococcus of acute blenorrhœa and gonorrhœa through many generations so as to get as purified micrococci as possible. This is essentially necessary in order to prove positively that the micrococci and not the virus in which they are embedded are the cause of the disease. These purified micrococci were then introduced into the conjunctiva and *nothing* ever resulted, no inflammation. nothing whatever. Furthermore this same Krause, under the same supervision, was never able to find the micrococcus of trachoma, discovered by Sattler, of Erlangen, although he tried every means to verify Sattler's results.

This then, is the present state of affairs. The reader can draw his own conclusions.

To students of ophthalmology or any branch of medicine it must certainly be a very discouraging fact to hear a disease called by different names and confounded, as it were, by renowned men in the profession. Such, however, is the fact and I can scarcely find a better and more striking example than in that disease commonly called granular lids in the United States, especially among the laity. It is a lamentable state of affairs, when scientific men cannot agree upon one term to characterize a certain definite disease. Until that is done statistics on that particular disease are of no value and articles too are often misinterpreted because the writer follows one system of nomenclature, the reader another. To give you an idea of the confusion in terms, I have arranged a tabulated statement of the names applied to the disease mentioned above, by the four distinguished oculists of Vienna, men whose names are so familiar to all ophthalmologists, as to need no further comment:

Arlt.	*Stellwag.*
Chronic Blenorrhœa	Trachoma granularis.
	Trachoma papillaris.

Jæger.	*Mauthner.*
Conjunctivitis trachomatosa.	Conj. granulosa.
Conjunctivitis granulosa.	Conj. papillaris.

Could anything be more confusing? Formerly Arlt called both forms of this disease "*Trachoma.*" Now he calls both simply "chronic blenorrhœa," and trachoma never crosses his lips. Stellwag calls one trachoma granularis and the other form papillaris, or simply says Trachoma for both. Jæger again changes things upside down, as it were, calling the trachomatosa of Stellwag *granulosa*, and the *granulosa* trachomatosa. Mauthner again, the youngest member of the quartet, calls one granulosa and the other papillaris, and if they occur as mixed forms either granulo-papillaris or papillo-granulosa, according to the predominance of one or the other form. Chaos certainly reigns supreme with granular lids, trachoma, papillaris, Egyptian sore eyes, military sore eyes, chronic ophthalmia or conjunctivitis, etc., etc., heaped together into a muddled conglomerate mass. You pay your money and you take your choice. It is difficult to explain the reason why all this confusion. The nomenclature of Prof. Mauthner certainly seems the most rational. The one form characterized by the enlarged papillæ and which never leads to cicatrization, called conjunctivitis papillaris; the other characterized by the peculiar sago-grains, or frog-spawn granulations, always producing cicatrization, and called granulosa. The mixed forms to be designated as above.

Here in Austria conjunctivitis papillaris is especially predominant; in France, Germany, etc., the conjunctivitis granulosa is the most frequent form. It is time that a radical change in the nomenclature of this disease takes place for the sake of scientific accuracy, for the sake of students of ophthalmology at home and abroad, and for the sake of enabling an intelligible interchange of opinions among ophthalmologists generally.

However much these renowned men differ in abusing a disease by calling it by different names they all agree in one thing: its treatment. A two per cent. nitrate of silver solution is used as long as any secretion is present and then the cuprum stick (blue-stone) is systematically applied. The four Professors mentioned above and the ten *Docents* of ophthalmology, connected with the hospital, all use the same treatment.

Of new remedies I might mention one which DeWecker, of Paris, has just published for that incurable form of pannus, where inoculation is practiced as a last resort. It bears the strange title of *Jequirity*. DeWecker heard of it through some Brazilians, it being the favorite remedy used by the old women of Brazil in treating this pannus. It consists of the seeds of some leguminous plant and is applied in the shape of poultices to the eye, and even if some of the remedy should happen to get into the eye it does not matter. How beneficial this will prove remains to be seen. Certainly anything that promises well and takes the place of the dreaded inoculation, or even of the less formidable operation of "peritomie" or syndectomy, will be hailed with joy by the profession. ERIC E. SATTLER.

PHILADELPHIA NEWS.

Editors Lancet and Clinic:

Dr. John Forsyth Meigs died at his residence, 1208 Walnut street, on Saturday, December 16, at four o'clock p.m., after an illness of ten days with pneumonia. He was born in October, 1818, and graduated from the University of Pennsylvania in 1838. He was a son of the late Prof. C. D. Meigs, and the author of a "Treatise on Diseases of Children, first published in 1857. (Particulars in a future letter.)

Dr. Gardette, President of the Trustees of Jefferson Medical College, is lying very ill with double pneumonia. M.S.F.

NEW YORK TO HAVE A CREMATORY.—A report comes from Washington, Pa., that New York is to have a Crematory. It will be near the city and will have many improvements on the Lemoyne furnace, doing the work in much less time. It will be so constructed that the ashes can be removed before the retort cools, allowing friends to carry the remains home with them in their pockets.

HORSFORD'S ACID PHOSPHATE IN TARDY UNION OF FRACTURES.—Dr. W. B. Morrison, Grand Rapids, Mich., says:

I have used Horsford's Acid Phosphate in cases of indigestion with good results. In indolent or tardy union of fractured bones its action is very decided.

Original Communications.

A RÉSUMÉ OF TWENTY-FIVE CASES OF ABDOMINAL SECTION.

Read before the College of Physicians and Surgeons Philadelphia, Pa., December 6, 1882,

By J. EWING MEARS, M.D.,
Surgeon to St. Mary's Hospital, Demonstrator of Surgery in Jefferson Medical College, and Gynecologist to Jefferson Medical College Hospital.

With a view of placing on record the results in a number of cases of abdominal section, and with the hope of contributing to the information possessed already with regard to these operations, I beg to submit the following *résumé* of the cases which have come under my care.

I have endeavored to present the points, which were regarded of interest, in a concise manner, for this purpose grouping them under different headings.

Of the twenty-five cases of abdominal section, twenty-two were performed for the removal of tumors of the ovary; one was made in a case of encysted dropsy of the peritoneum (reported in the *Transactions* of this College, 3d Series, Vol. I.); one in a case of abdominal dropsy, in which the diagnosis was obscure, and an operation of exploration was made; and one for removal of the child in extra-uterine fœtation.

As the case of encysted dropsy has been reported to the college, and as I propose, at a future time, to report the one of extra-uterine pregnancy, I shall present on this occasion a *résumé* of the ovarian cases.

Age of Patients.—In the twenty-two cases the age varied from the youngest, sixteen, to the oldest, sixty-five years.

Nationality.—Sixteen patients were natives of the United States, and six of Ireland.

Social Condition.—Five were single, one was a widow, and sixteen were married.

Duration of Growth.—The duration of growth varied from three months to seven years, counting from the time at which the tumor was recognized first by the patient.

Aspiration, or Previous Tapping.—Aspiration, for the purpose of obtaining a specimen of fluid for examination, was performed in eight cases; tapping, to relieve abdominal distension, in four. In one case, in which the cyst was very fully distended by fluid, and the abdominal wall was very tense, leakage followed aspiration, and persisted for some hours, despite the efforts made to control it by pressure. In none of the cases, in which aspiration or tapping was performed, did any serious results occur, nor were there any evidences in the operations, which followed, of complications due to the previous aspiration, or tapping. In all cases, proper precautions were taken, the patient being required to rest in bed from three to four days subsequent to the operation.

Condition of Patients at the Time of Operation.—With the exception of two, who were the subjects of malignant disease of the ovary, the condition of the patients was good. All were placed upon preparatory treatment, extending over periods varying from two weeks to two months.

Line of Incision.—In all cases the abdominal cavity was opened by incision in the linea alba, midway between the umbilicus and pubes, the length of the incision varying according to the nature of the tumor and the presence or absence of adhesions. A simple, mono-cystic, non-adherent growth was extracted easily through an opening one and a half inches in length; whilst other tumors, polycystic in character, with numerous and strong adhesions required incisions from four to six inches in length in order that the hand could be introduced into the abdominal cavity, so as to sweep over the external surface of the tumor for the purpose of detaching adhesions, and also into the interior of the growth to disintegrate its contents, and thus reduce its size. The incisions were invariably closed by the introduction of metallic sutures—iron or silver wire—the needle being carried so as to include the peritoneum.

Adhesions.—In eighteen cases adhesions, either parietal, omental, or visceral, existed—differing greatly as to extent and character. In some instances they were so slight as to be separated readily with the finger; in others, they were very extensive and very firm, requiring some force to effect their detachment, and exposing denuded, bleeding surfaces. In one of the fatal cases the adhesions were universal, and so firm as to require a minute dissection to be made, in order to effect removal of the cyst.

In a second case, a portion of the parietal surface of the peritoneum as large as the palm of the hand, and embracing the sub-peritoneal fascia, was detached, leaving a broad band of attachment. This was included in three animal ligatures, and the detached portion removed. During the period of recovery, which was not retarded, the patient referred to the position of the exposed surface as a sensitive point. In still another case, an adhesion, in the form of a cord, at least two inches in thickness, and from four to five inches in length, fastened the tumor to the parietes. It was drawn down and a double animal ligature applied before section was made. Hemorrhage caused by the separation of adhesions has been controlled by the application of carbolized silk and animal ligatures, both ends being cut short, and the ligatures permitted to remain *in situ*. In some instances, torsion of the vessels has been sufficient to restrain the bleeding.

Character of the Cysts.—Four cysts were unilocular, sixteen were multilocular, and in two, malignant disease existed. In one of the latter medullary cancer involved both ovaries, and in the other colloid disease was present.

Double ovariotomy was performed in two cases.

Primary or Secondary Operation.—In one case the operation was secondary, ovariotomy having been performed thirteen years previously. In this instance the incision was made to the side of the cicatrix of the primary operation, so as to avoid wounding the pedicle of the tumor removed, which was found to exist as a small cord attached to the inner surface of the abdominal wall, and to be of such length as to permit the uterus to occupy a normal position. Elongation and shrinkage of the pedicle has been observed in post-mortem examinations made in cases in which death occurred some weeks after ovariotomy.

Treatment of the Pedicle.—In all but one case the pedicle was secured by the application of a clamp; in the case excepted, a carbolized catgut ligature was applied, both ends cut short, and the pedicle was returned to the abdominal cavity. In cases of very short pedicles I have been able always to secure them with the clamp, and in no case was it observed that the traction made to accomplish this produced any harm. In one instance of an extremely short pedicle, where, in fact, the wall of the cyst was separated not more than a half inch from the uterus, a double animal ligature was applied, which failed to control the hemorrhage. The clamp was then applied over the ligature, bringing the uterus well up between the edges of the incision. Although the patient had a tedious convalescence, the ligature and clamp came away in good time, and the abdominal incision healed kindly. Beneath the cicatrix the uterus could be distinctly outlined, and after the return of the patient to her usual duties no complaint was made of pain caused by traction upon the organ. In one case only was there noticed a slight tendency to the occurrence of ventral hernia, and this in a young patient who slipped and fell on the icy pavement a short time after recovery from the operation. A good deal of tension of the abdominal walls was felt in the act of falling, and it was thought a slight detachment of the pedicle had occurred. Rest in bed for a few days, with pressure over the cicatrix, relieved the condition.

In nearly all the cases in which the clamp was applied it was observed that it could be removed safely at about the same time with the last of the sutures, and, therefore, the healing of the abdominal incision was not materially delayed. In one or two cases both sutures and clamp were permitted to remain longer than usual. In favorable cases the first of the sutures was usually removed on the sixth day, and the clamp on the eighth or tenth.

In three cases menstruation has occurred by the pedicle. In all of the cases it took place but once, and did not produce any serious inconvenience. It occurred in one of the cases in which double ovariotomy was performed, two clamps having been applied to the pedicles without difficulty.

Strangulation of the intestine has been noted as being due to the use of the clamp. In my observation of the cases of others, and in my own, I have not met with an accident of this nature. As it has followed likewise the use of the ligature, it cannot be ascribed alone to the employment of the clamp.

The support afforded to the uterus by the attachment of the pedicle to the abdominal walls has seemed, in some of the cases, to have been of benefit, overcoming displacements which were productive of much previous discomfort.

In one of the three fatal cases which occurred, the ligature was applied and the pedicle returned to the abdominal cavity; death resulted on the third day from septicæmia, and the autopsy showed the stump of the pedicle softened and covered by a grayish slough. This condition of the pedicle was, I think, not a primary condition, but was a part of the general inflammation which pervaded the abdominal cavity, occurring in a case in which the cyst was adherent in every part to the parietes and viscera, and which required minute dissection to effect its separation.

While the tendency of the present day is to return to the use of the ligature as an exclusive method of treating the pedicle, I think it unwise to discard entirely the clamp. The imbedding of the ligature and its subsequent absorption demand a degree of reparative power, which some much debilitated patients do not possess; in such cases it would appear proper to employ the clamp.

Drainage.—In one case it was thought desirable to secure drainage of the abdominal cavity after operation. For this purpose a large perforated rubber tube was introduced and allowed to remain in position for three days. During this period no fluid escaped, and the symptoms presented by the patient gave no indication of the collection of septic fluids. Of the great value of drainage after ovariotomy there can be no question. Its use is especially indicated in cases in which adhesions of some extent have existed.

Antiseptic Precautions.—In fourteen cases the antiseptic methods were employed in full detail at the time of operation, and partially during the conduct of the after-treatment, the spray being then omitted. The successful results which have attended some of the cases were undoubtedly due to its use. The condition of the patients during the after-treatment was favorably influenced, and convalescence was promoted. Of three fatal cases, one occurred after operation under the system. The tendency of most operators at the present time is to employ a modified form of the system, owing to the fear of constitutional impressions made by agents employed. The constitutional effect of the carbolic acid has been observed in two or three cases in the condition of the urine, other than this no symptoms were noted.

It has been stated above that menstruation by the pedicle occurred in three cases. In one a marked impression was made upon the temperature, and the elevation occurring as it did without being accompanied by a corresponding increase of the pulse-rate attracted attention. On the day preceding the appearance of the flow the pulse was 84 and the temperature normal, 98½°. on the day of its appearance the temperature rose to 100°, and on the third day reached 100⅜°, then declined to 99⅜°–99°, and on the day of the cessation of the flow returned to the normal, 98½° —the pulse-rate in the meanwhile remained unchanged. As the elevation of the temperature occurred after convalescence had been fully declared and the patient was within two days of the period when she would have been permitted to sit up, some anxiety as to the cause existed which was not relieved until its relation to the presence of the menstrual flux was considered.

In two of the cases pregnancy occurred and terminated safely in connection with the development and growth of the cysts. In both, the cysts had attained large size, and notwithstanding the pressure exerted during parturition rupture did not occur. In one, puerperal peritonitis supervened causing the formation of extensive adhesions, in the other, slight but firm adhesions were found.

In cases under my care recently, quinine has been administered in large doses in the twenty-four hours preceding the operation with a view to obviate shock, and in this respect its use has been attended with success. Thirty to sixty grains, in divided doses, have been given, and in each case so treated shock has been absent. In the preliminary and after-treatment it has also been given in tonic doses.

The duration of the operation has varied from thirty minutes to two hours, in the former time, mono-cystic non-adherent tumors have been removed and the wound closed. The latter period of time has been required to remove polycystic growths, with extensive and firm adhesions and many bleeding points to control. Serious complications during the operation, and after-treatment have occurred in but two cases. In one, already alluded to, the adhesions were so extensive as to complicate seriously the operation and to render the result fatal. In the other, the slipping of the ligature and the persistence of hemorrhrge for some hours after the closure of the wound complicated the operation. This patient's recovery was slow, two months and a half elapsing before she was able to leave her bed, in which period there occurred in order the following complications—obstinate, uncontrollable diarrhœa, suppuration of hemorrhoids, formation of a large bed-sore over the region of the sacrum, with destruction of the sacro-coccygeal articulation and a condition of blood-poisoning with swelling of the left parotid gland. Recovery finally took place, and the patient has been able to maintain herself by her work as a seamstress.

The size of the tumors varied greatly, and the weight from three to sixty pounds.

With one exception, all of the operations have been performed either in private houses or in a private hospital. One was operated upon in a private room of a general hospital and in this a fatal result ensued—death, however, could not be attributed to this fact, but rather to the complications which existed in the case. In all cases careful attention was given to the preparation of the apartments so that the patients should be placed under the most favorable hygienic conditions.

In the cases in which the progress was favorable the patients, as a rule, sat up in bed on the twelfth day, and on the fourteenth were permitted to get out and occupy the lounge or an easy chair. At the end of the third week gentle exercise about the house, and in favorable weather, in the open air was allowed. This exercise was continued daily so as to prepare the patient, if living out of the city, for the journey home, which was undertaken between the fourth and fifth weeks after operation.

For twenty-four hours after the operation no food was given—at the end of that time, one ounce of milk, with lime-water, if vomiting had occurred, or if there was nausea, was given every three or four hours. In two or three days the amount of milk was increased to two ounces every three hours, alternating with a teaspoonful of beef-juice in three tablespoonfuls of water. In some cases the beef-juice was administered instead of the milk from the first. As convalescence advanced additions were made cautiously to the diet, no solid food being given until the sutures and clamp had been removed and the bowels moved freely by enemata.

Usually enemata of soap water and olive oil were administered on the eighth day and on alternate days, subsequently, until evacuation occurred naturally. The catheter was used every six or eight hours for five days, and then efforts at evacuation of the bladder were permitted to be made by the patient.

When possible to avoid it, opiates were not administered. When required to relieve pain or secure rest, morphia in one-sixth to one-quarter of a grain was given hypodermically.

In the twenty-five abdominal sections death occurred in four cases—three after operation for the removal of the child in extra-uterine fœtation. Septicæmia was the cause of death in two of the ovarian operations, and in the case of extra-uterine pregnancy. Shock and hemorrhage produced a fatal termination in the case of malignant disease of both ovaries in which double ovariotomy was performed.

Reports of Societies.

ACADEMY OF MEDICINE.

Meeting of November 27th, 1882.

J. L. CLEVELAND, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary*

DR. J. T. WALLINGFORD made the following remarks in reporting an interesting case of

Fibro-Cystic Tumor of the Uterus and Broad Ligaments.

It has only been about two decades since fibro-cystic tumors of the uterus received separate and distinct consideration from other uterine growths. Koeberle tells us that up to 1869 only fourteen cases had been recorded. Cases since then have multiplied quite rapidly, as has been the case with many other affections, after special attention has been directed to them.

In the vast majority, if not all cases, the tumor is primarily fibroid in character. The tumor may be either sub-serous, sub-mucous or interstitial fibroid before the so-called cystic degenerations begin.

Pathologists have described a variety of methods by which space may be created in fibroid tumors and subsequently become lined by a fluid secreting membrane:

1. A dropsical condition of the connective tissue of the tumor with mucous degeneration;
2. Hemorrhage within the substance of the tumor leading to the so-called "apoplectic cyst;"
3. Cell infiltration producing softening and liquefaction of the tissue. It has also been stated that any tissue rich in cells may be transformed into a cyst by mucous metamorphosis of the protoplasm.

The term cystic-degeneration is rather loosely applied to this affection, for the fluid collection is probably more frequently the result of liquefaction than of true cyst development.

Cystic degeneration affects far more frequently the sub-serous, than it does the sub-mucous and interstitial varieties of fibroids. When it does occur in the interstitial and especially the sub-mucous varieties it often contributes largely to the ultimate cure of the case. Thus the entire tumor may be liquefied, and if it be confined in the cavity or substance of the uterus it can usually be punctured, the contents removed, and a cure in this way is sometimes quickly brought about. Unfortunately, cystic degeneration in the sub-serous variety of fibroids does not lessen, but increases the gravity of the case. The fibro-cystic tumor is much more rapid in growth, and if it is multilocular and irregular in form, it is more apt to become entangled with the intestines and form adhesions than the simple fibroid. Small cysts may be ruptured and produce peritonitis; and again the diagnosis is more difficult and the treatment less hopeful than it is in the simple fibroid.

The following case seems to illustrate in a striking manner the course and ultimate result of some fibro-cystic tumors within the abdominal cavity, also as affecting the gravity of the case by forming strong adhesions and producing inflammation and ascites, and otherwise obscuring the diagnosis. It also shows the complexity of some abdominal tumors as regards their origin, growth and termination.

The case is as follows:

Mrs. A. quite an intelligent colored woman had always lived and performed farm labor upon a Southern plantation. She was the mother of four living and healthy children. The first was born when she was seventeen, the last when she was twenty-four years of age; since which time she had not been pregnant, her menstruation having been very irregular and for the last two years had ceased entirely.

About two years ago she noticed a small tumor or enlargement just above the pubes; and in a few months two others were noticed in the same region. These three tumors seemed to lie on the same horizontal plane, were movable and quite distinct from each other. When the patient would turn in bed during their earlier development they would flop from side to side, and it was always necessary for her to hold them with her hands to avert the pain which these movements would occasion. There was no tenderness upon pressure at this time, but often during perfect quietude sharp lancinating pains were experienced.

At the expiration of a year the tumors were no longer distinct from each other, but seemed to have coalesced, producing an abdominal enlargement having all the appearance of a woman nine months pregnant. Work, or any violent movements of the body became so painful that a bandage had to be worn for support. Thus protected she persued her toil in the field up to within a few months ago, when finally she was compelled to quit and seek medical advice.

Upon examination I found that she had always enjoyed the very best of health. No history of any hereditary disease could be ascertained. The pulse, temperature, and respiration, were about normal. As the patient lay on her back, the abdomen was noticed to be enormously enlarged, the walls very thin and tense. The lungs were encroached upon until dyspnœa had become at times almost unbearable. Fluctuation was distinct throughout the tumor, and percussion elicited flatness, except in the region of the ascending and transverse colon.

There was no flattening of the abdomen or bulging of the lumbar regions such as we observe in cases of ascites. No position or attitude the patient could assume would at all affect the shape or contour of the enlargement.

A fluctuating tumor the size of a man's fist protruded from the vulva; the patient having noticed it for the past ten months. By close examination it was found to be a prolapse of the pelvic peritoneum, coming down at the site of the posterior vaginal cul-de-sac, crowding before it the posterior vaginal wall as its external covering.

The uterus was comparatively low down and in front of the abdominal tumor; the os was patulous, and the uterine cavity was somewhat enlarged and measured four inches in length. By means of a large sound the uterus was found to be quite movable and apparently independent of the tumor.

On account of the enormous distension of the abomen, the internal organs could not be as satisfactorily examined as was desirable. The diagnosis appeared to rest between ovarian cyst and ascites. But it could not be a simple case of ascites, because all the physical signs and symptoms of that condition were wanting; viz., flattening of the abdomen, bulging of the lumbar, region, the intestinal resonance changing according to the position of the body, together with a negative history of any disease of the dropsical tripod. That there was fluid in the peritoneal cavity was quite clear, as evinced by the vaginal protrusion; but that there was a great amount of ascitic fluid, every sign and symptom seemed to prove the contrary.

Then I must acknowledge that I believed my patient to be affected with ovarian cyst, which had probably originated in both ovaries and subsequently united, forming one large cyst with thin walls lying in juxtaposition with the abdominal parietes. This diagnosis seemed to be the most rational and was concurred in by a few of my medical friends, while others who saw the case were in doubt and refused to give any opinion as to the nature of the trouble.

In order to ascertain the amount of ascitic fluid which complicated the case, I concluded to puncture the vaginal protrusion and allow it to escape. A small trocar was used which gave vent to about three gallons of a thick straw-colored fluid; after which, of course the case presented quite a different aspect. The hard, irregular tumor could now be distinctly felt, and some of its attachments correctly demonstrated.

On the following morning after the tapping I was summoned in great haste and found my patient exhausted and suffering intensely. The ascitic fluid had re-accumulated, and the distension was almost as great as before the tapping. The pain was acute and localized in the pelvis. The pulse, 130, the temperature, 104, and all the symptoms pointed clearly to acute violent pelvic peritonitis. From this condition she never rallied, and the following night died about forty hours after the operation.

A few hours after death, kindly assisted by Dr. Muscroft, I opened the abdominal cavity and found the peritoneum in its entire extent, both parietal and visceral in a state of chronic inflammation. The pelvic portion, however, was covered with recently extravasated lymph. Its tissue was very much thickened and dense fibrous bands were stretched from point to point. So strong indeed were some of those bands that it was impossible to break them, and under the knife they were found as solid as ligamentous tissue. The great omentum was spread over the tumor and so tightly adherent that it could not be removed. By tearing it off around the edges, however, a large irregular mass was brought into view, having been formed by the union of several small growths.

The tumor was firmly attached to the intestines and stomach, and those fibrous bands above alluded to produced effectual stays or braces from point to point, preventing abdominal flattening, which otherwise would have occurred on assuming the horizontal position. This was the most deceptive feature in the diagnosis, the contour of the abdomen not being affected by change of position. This was not due to the tumor, for it did not fill one-third of the cavity; but to those fibrous bands which were so constructed as to hold the abdominal walls in the same position, whether the patient be erect or horizontal.

The tumor which is here before you is a very irregular mass of twenty pounds weight containing both fibrous and cystic elements. Cysts of various size containing a transparent fluid are scattered over its surface; though the fibrous elements largely predominate. There are three small pedicles about an inch in length, one springing from each of the broad ligaments and one from the fundus uteri. The ovaries were both intact and apparently healthy.

The acute violent inflammation which was the immediate cause of death, was, I believe, superinduced by the tapping process. A chronic inflammatory condition having existed for a long time without any great inconvenience was blown into a new and violent action by this very slight puncture. It is true that cases are reported almost daily in which the thoracic and abdominal cavities are successfully tapped while in a chronic inflammatory condition; but notwithstanding the alleged safety of the operation, this one case would seem to demonstrate that there is more or less danger to be apprehended after the puncture of an inflamed serous membrane.

DISCUSSION.

Dr. Whittaker congratulated the essayist on the clearness of description and the intrinsic value of his specimen as presented to the Academy.

Fibroid tumors of the uterus myomata, belong to the most common affections to be met with in the female, in fact so common that some authors declare they are to be found in most women. They do not often threaten life and in the speaker's experience they may be frequently discovered where they have been overlooked when they do not present any direct symptoms.

His suspicions had been excited in some cases of obstinate gastric or intestinal catarrh and on examination had revealed a uterine tumor, detectible only by sound so high up and in the posterior wall. The case reported was very obscure as the most ordinary and reliable symptoms were not present, for instance the ascent and the metrorrhagia. Many cases occur in spinsters and widows as Virchow has pointed out, but these conditions were not present here. Menstruation was regular as was also gestation and parturition. From the description given everyone would have taken this growth to have been an unilocular ovarian tumor. Owing to the prescence of so much fluid diagnosis was impossible and the arrival at a correct opinion after its withdrawal was to be attributed to the skill of the physician. The speaker did not know how much reliance was to be placed on the presence of Drysdale's cell as a diagnostic feature in ovarian fluids but was inclined to the opinion that the sanguine expectations of its author or discoverer were not generally shared by gynecologists.

If the patient had not been so young it might have been supposed that the tumor was a carcinoma of the mesentery which had undergone cystic degeneration.

Sometimes these fibro-cystic growths are difficult to differentiate from sanguinolent or serious tumors particularly hœmatocele. A retroflexion of the uterus occasionally offers a hindrance to the flow thus favoring a hœmatocele which may suffer degenerative changes leaving a bloody serum. The speaker once saw a case of this kind with Dr. Conner where a pint of fluid was aspirated that had existed for a year and a half, to the very great relief of the obstinate constipation, and more particularly of a circumscribed peritonitis at every menstrual epoch. The character of the tumor was only made out, it is fair to say, under aspiration. Aspiration, at least with the hypodermic syringe, should always be practiced in any case of fluctuating tumor. The speaker had once in this way discovered an echinococcus cyst in the abdomen, and had often gotten most valuable evidence of a negative character in other growths. It is always a good plan to use the hypodermic syringe before the trocar in any case.

Dr. P. S. Conner said that he must second the previous speaker in regard to the interesting manner in which the reporter of this case had presented his subject. There were several important points connected with this case; especially the pathological questions in establishing a diagnosis. The most interesting fact was that simple tapping should be followed so rapidly by acute peritonitis. Death after a lapse of forty hours is not uncommon from this cause, but the short time and violent symptoms with which it was associated led the speaker to suspect septicemia as well as peritonitis. Septicemia may result without any peritonitis and the peritoneum in a state of chronic inflammation will often bear more manipulation than will a normal peritoneum. He could, therefore, hardly see why the simple tapping in this case should have been followed by such violent symptoms.

Dr. Cleveland said that he had been kindly invited by Dr. Wallingford to see the case before the fluid was withdrawn. At that time a diagnosis was impossible on account of the enormous distension by the fluid, and upon the advice of some one present Dr. Wallingford was induced to aspirate the sac. The elevation of temperature which, as far as the speaker could remember, was between 101° and 102°, led him to believe that septicemia was present. He was astonished after wards to hear that the withdrawal of the fluid had been followed by peritonitis; he had expected this operation to give the patient much relief. It was possible that the handling of the tumor had something to do in producing inflammation. The tumor was a very irregular mass and the breaking down of some of the bands caused by manipulation might have produced a peritonitis.

Dr. Ransohoff thought, too, that the most interesting point was the fatal result following mere tapping. He remembered a case that he had seen with Dr. Palmer where there was a large accumulation of fluid in an ovarian tumor; an amount of fluid to the extent of two gallons was withdrawn by apiration without any bad result at the first tapping; but a subsequent tapping was followed by fatal peritonitis within three days. Some patients will bear tapping well for a number of times and at the sixth or seventh operation will suffer a peritonitis. In his opinion septicemia was more apt to arise from tapping through the vaginal wall than the abdominal parietes and also more apt to follow withdrawal of the fluid by means of the trocar than the aspirator. The large accumulation of the fluid drives away all the blood from the parts and when the fluid is withdrawn and the tremendous pressure removed the circulation returns with enormous rapidity, so that a peritonitis may be set up without septicemia. Tapping is not now considered so harmless an operation as formerly, and the removal of the fluid alone is not wholly devoid of danger which is still more enhanced by making a puncture.

Dr. Muscroft remarked that he had been requested to see the case with a view to operation. As the abdomen was much distended by the fluid, he did not deem it safe to make a diagnosis from the accumulation alone, and therefore advised Dr. Wallingford to draw off the fluid. In the speaker's impression, the patient did well for twenty-four hours, when violent peritonitis set in, great pain accompanying the peritoneal inflammation. It is known that in some instances peritonitis will follow an operation in a few days, as for instance, after lithotomy, but then it is not general but localized, accompanied with deposits of pus. He advised tapping here through the vaginal prolapse because there was a great accumulation of serum, and he thought this the safest and easiest place to perform this operatton.

In this connection he would state that he once had a case of ascites when the abdomen was enormously distended causing a protrusion of the navel. As the serum was here nearest to the surface he tapped in this place, and drew off several buckets full of water. The patient was at first greatly relieved, but in a few hours peritonitis set in which destroyed his life. When he tapped directly through the abdominal wall he had never met with this accident. He thought that in these two cases death was probably more due to trauma than peritonitis. Sometimes death may take place from peritonitis without there being any effusion.

Dr. Conner said that many points in this case led him more and more to the opinion that death was due to septicæmia. After the pressure by the fluid had been relieved septicæmia was established with greater rapidity: Sims said that in cases of rapidly fatal results in ovariotomy death was not due to peritonitis but septicæmia.

If such a poison enters from without we can understand how much more easily it can enter through the vaginal than the abdominal wall. He could not say if septicæmia was present before the tapping or not, but there were several factors which favored the theory of septic influence; if the fluid be drawn off in a large quantity the drain on the system is greater, the ability to resist is less and the patient will yield more readily to septic influences. We know that after tapping has been performed several times the fluid is no longer straw colored as at first but changes to a darker color with each tapping. Peaslee, therefore, advises not to tap an ovarian tumor until it has been determined to perform ovariotomy at once, while Keith maintains that there are no injurious effects following successive tapping.

Dr. Whittaker said he coincided with the opinion expressed that death was due to septicæmia, though he did not see how it could exist before the operation. In the vagina there is so much decomposing mucus that it may often be a starting point for septicæmia at all times. An operation on this part is, therefore, particularly dangerous. He had often tapped for ascites, but had always had good results, as he had always penetrated from the abdomen.

Peritonitis develops in septicæmia in connection with inflammation of other serous membranes, and is then an expression of general blood-poisoning.

Peritonitis, pleuritis, meningitis are not uncommon manifestations of any of the acute infectious diseases, including septicæmia.

Dr. Davy said that the enlargement of the uterus, as determined by the introduction of the sound, assisted in the diagnosis from an ovarian tumor, for we may expect this enlargement in uterine tumors of this class. As regards the reliability of ovarian cells mentioned by the first speaker he believed there was a tendency to place less confidence in them than at first, because they may be found in fluids of various kinds. In his estimation also septicæmia was the cause of death; in the neighborhood of the vagina the character of the discharges as well as the position of the patient facilitated the entrance of air unless great care was taken. As regards the propriety of tapping he believed the opinion prevailed that frequent withdrawal of the fluid is improper. Keith himself would discourage frequent tapping if ovariotomy promised success.

Dr. Cleveland remarked that to him it did not seem strange that the patient died, whatever was the cause. She was extremely prostrated and emaciated, and her condition was very bad. Although he did not expect collapse at the time, it was not wonderful that it set in, simply from the withdrawal of fluid and its reaccumulation in so short a time. He believed that septicæmia was present at the time of operation, although Dr. Wallingford attributed the rise of temperature to malaria. He did not attach so much significance to the point where the needle was introduced as one of the previous speakers; certainly, in the point chosen it was most natural to introduce it. It is possible that the amount of fluid withdrawn at once was too great.

Dr. Wallingford, in conclusion, said that his case presented many peculiarities. He would admit that the patient was in a bad condition; but this was due to the enormous tumor which she had carried for two years and the fatigue resulting from a two weeks' travel from New Orleans to this city. In proof of the fact that the rise of temperature before tapping was due to malaria he would say that it was reduced by quinine in small doses. He thought that the question whether septicæmia produced death could hardly be answered. It is possible that there is more or less septicæmia present before death in all cases of peritonitis. The acute inflammation started from the puncture, for at the post-mortem examination recent extravasation of lymph was found in this region, while above it the peritoneum was comparatively pale and uninflamed. The condition for the absorption of poisonous matter was greatly enhanced by the presence of the poisonous fluid.

CINCINNATI MEDICAL SOCIETY.

Meeting of Nov. 28, 1882.

A. M. BROWN, M.D., *Vice-President.*
W. H. M'REYNOLDS, M.D., *Secretary.*

Dr. Schwagmeyer reported the following case of extra uterine pregnancy. He was called February 15, 1882, to see Mrs. R., a married lady, forty years of age, and found her with fever of moderate intensity, a dry coated tongue and constipated bowels. There was some tenderness of the lower part of the right side of the abdomen. In this region, through the abdominal walls, could be felt a firm mass, but its boundaries were not well defined. The position of this tumor, near the cæcal junction, led the doctor to suppose it might be hardened fæces, and this opinion was strengthened by the fact that the patient had been suffering from obstinate constipation for some time. But after having succeeded in emptying the bowels the tumor still remained, and it was impossible at the time to determine what it was, for the great degree of peritoneal tenderness made even slight palpation unendurable to the patient.

A vaginal examination revealed slight enlargement of the uterus. This organ was firmly fixed in its position, probably by old adhesions, for the patient had suffered from a severe attack of pelvic celulitis some six years previously. She had not had her menstrual discharge at proper times, but now there was a flow of blood and mucus quite frequently.

By vaginal examination the tumor could not now, nor at any time afterwards be felt. She grew worse from day to day; the peritonitis was quite extensive. Complete loss of appetite, and the constant severe pain, when not under the influence of opium, exhausted her strength very rapidly. After the tumor had increased considerably in size, its margins could be defined with some accuracy, and the doctor, suspecting extra uterine pregnancy, asked for consultation. To this the patient would not consent, saying she would probably have to die in a short time and she did not wish to submit to another examination by a strange physician. The condition of the uterus did not undergo any material change, did not increase further in size. The discharges of blood and mucus were quite frequent but never very profuse. The bowels always had to be moved either by cathartics or injections and the action was always painful.

Having been called suddenly to see this patient one afternoon, the doctor, upon his arrival, found that the fetus had been discharged by the bowel. The inflammatory process having caused adhesions the case terminated in this way very favorably. The fetus had quite a healthy appearance and from its size and development seemed to be about in its fourth month.

The patient had no unfavorable symptoms afterwards. The cyst contracted gradually and at present no trace of it can be discovered.

The previous history of the patient is that she usually enjoyed fair health, though never very strong, until about six years ago, when she had what must have been, from her description, a severe attack of pelvic cellulitis. Since that time her menses have been somewhat irregular. She has given birth to three children, the youngest being now fourteen years old.

Dr. W. H. Taylor remarked that the interesting feature of this case was the discharge of the entire fetus at once by the rectum. One of the common modes of discharge of the fetus in extra uterine pregnancy is by the rectum, but it generally comes in macerated fragments. In the early stages it is difficult to diagnose extra uterine pregnancy. Repeated attacks of intense pain in the pelvis, in connection with other symptoms of pregnancy, are strong evidence of its presence. In the first months the uterus enlarges. The menstrual flow, or a discharge similar to it, continues, but becomes irregular in its periods. At the fourth month the sounds of the fetal heart may be heard and from this time on the position of the tumor may afford some light. The speaker had had under his care two cases during the last three or four years. In one abdominal and pelvic pain, with every appearance of peritonitis, occurred quite often. The menstrual discharge continued up to full time, but recurred at somewhat irregular intervals. The fetal heart sounds were quite distinct at the fourth month and afterwards up to full term, when labor pains came on. These were arrested by anodynes but occurred again one month later. This lady still lives and carries her fetus. Her abdomen has grown somewhat smaller and she enjoys very good health. Dr. Schwagmeyer's case was a woman advanced in life. This is usually so, but the speaker's second case was that of a young woman. She had always been somewhat irregular in her menstrual periods. Two years after her marriage she began to vomit and exhibit other signs of pregnancy. Soon she had an attack of intense pain in the pelvic region, lay on her left side and showed every appearance of pelvic cellulitis. From this time until full term she suffered from several similar attacks. The menstrual discharge appeared at irregular intervals. From the fourth month to full term the fetal heart sounds could be distinctly heard. Labor pains came on at the usual time and were arrested as in the first case. She has recovered her usual health and her abdomen has considerably diminished in size.

Dr. Taylor also reported the following. He had recently been called to examine the body of a woman who died suddenly of apoplexy twenty-three years ago. The family desired to remove the body to another burial place. Upon digging down and exposing the coffin, its great weight made its removal quite difficult. The cloth covering the coffin had rotted away, but the wood was firm and well preserved, and looked as if it had been soaked in water for a long time. The clothing on the body had all rotted away, but the body itself retained its form and was black in color. The arms, well preserved in form, were sunk into the chest, upon which they were crossed. The mammæ were large and full in form, but the features were distorted. The head was separated from the trunk by the disintegration of the cervical vertebræ and the left foot from the leg in the same way. In some parts the body was hard and in others soft. As seen through some openings in the skin no distinction could be made between the muscular and other tissues, but all appeared to be one homogenous mass of a grayish color, like plaster, and of a granular waxy consistence. It had no odor whatever. The bones had disintegrated, but all the soft parts seemed to have been transformed into adipocere. The weight of the woman when she died was about 175 pounds. The weight of the body when exhumed was estimated to be 500 pounds.

Luxation of the Jaw.—The late Professor Gibson used to tell a good anecdote in regard to luxation of the jaw. An old and quite wealthy man came into the office of a surgeon, with a luxation of the jaw, and made motions to have it reduced. The jaw was reduced. and on being asked the fee the doctor mentioned an amount which the man regarded as entirely too much, and insisted on its being reduced one-half. The surgeon said no more about the fee, but began to talk, and pretty soon told a laughable story. The man began to laugh heartily, and out went the jaw. He again made signs to have it reduced, but the doctor said: "When you pay down my fee, I will put in your jaw."

PROCEEDINGS OF THE DEARBORN CO. MEDICAL SOCIETY.

Reported by Fred Treon, M.D.

Medical Legislation in the State of Indiana.

At a meeting of the Dearborn County Medical Society, recently held at Lawrenceburg, Ind., the subject of medical legislation was made the principal order of business. Dr. Thad. Stevens, of Indianapolis, chairman of the committee appointed by the State Medical Society to draft a bill to be presented to the Legislature, was present, and on motion was invited to participate in the proceedings of the meeting.

As the subject is one of deep interest, and one on which their is diversity of opinion, and is likely to be brought before the Legislature this winter, we send for publication the principal proceedings of this meeting, as showing the views of the members of the Dearborn County Medical Society on this subject, a society which ranks as one of the largest in the State.

Dr, Stevens commenced by referring in a general way to several bills he had with him. One of these advising a central board for the different system of medicine, and another several boards of examiners. Each school to have its own board or boards. He does not himself advocate a mixed board.

Dr. George Sutton, a member of the Committee on Medical Legislation, appointed by the State Medical Society, said that the regular system of medicine was the only true system. It was founded upon experience and the accumulated knowledge of 2,000 years. The laws which govern our medical socities regard all other systems as errors or delusions. We are not allowed to consult with irregular physicians or in any way to recognize them as members of the medical profession, and as the object of this law should be to protect our citizens against that which we believe to be wrong, it is certainly inconsistant for the State Medical Society, composed of regular physicians to ask the Legisleture, to pass a law to put upon the same equality with the regular profession, all the different systems and delusions in medicine, when our code of ethics and bylaws governing our societies regards the regular system as the only true system of medicine. He read from a draft of a bill which he presented to the Dearborn County Medical Society at a former meeting, and which was unanimously indorsed. "That no person should be allowed to practice medicine in the State of Indiana, unless he is a graduate of a regular medical college in good standing." He had no idea that such a bill would pass the Legislature at the present time, but in asking for such a bill we were not acting inconsistent with our code and the laws which govern our societies.

Dr. Stevens now read from bill No. 3, Sec. 3rd, which referred to the boards and the manner in which they were to be appointed. He claimed the only difference between this and the Sutton bill was that his read several schools, while Sutton's read the regular school of medicine. This, he claims, will be impossible to get.

Dr. Harding said he would favor a bill compelling all who enter the profession of medicine to be graduates of some reputable school.

The diploma to be a license to practice. The faculties of colleges being the board of examiners. He thinks the regular system will predominate, and in this way boards will not take precedence of college faculties.

Dr. R. C. Bond said "he did not advocate the bills referred to by Stevens." Thinks we ought not, by medical legislation, to throw open wide the doors to every "pathy" in the land.

Dr. Treon said he believed, with Dr. Harding, that college faculties of regular institutions should not become secondary to boards of examiners, and claimed with Sutton, that if we could not get the proper law to regulate the system of medicine, that it is better to have no law.

President Dr. Kyle said he had one complaint to make of Steven's bill i. e., the omission to examine on the branches of therapeutics and medicine.

Dr. George Sutton closed the debate by saying that he could not agree with Dr. Harding in asking for a law that would recognize irregular diplomas. He here read his protest which should have been read at the late meeting of the State Society.

The committee of which he was a member presented a bill placing the different systems of medicine upon the same equality. Dr. Sutton presented the following minority report.

Protest of George Sutton, M.D.

Whereas, we regard the different systems of medicine commonly known as irregulars, as being erronious in their theories, and evils in society, sustained by the people from a want of a correct knowledge of the true principles of medicine. Therefore, we believe it not only inconsistant with the obligations we owe to society, but as retarding the advancement of true scientific medicine, to ask the Legislature through our State Medical Society, to legalize erronious systems of medicine by which errors and delusions are sustained by law, and wrongs legalized, and that the only law we can consistently ask the Legislature to pass for the protection of the people against the evils associated with the practice of medicine is: That no person shall be allowed to practice medicine in the State of Indiana unless he be a graduate of a legally authorized regular medical college in good standing. The standing of the college to be decided by the State Medical Society, composed of regular physicians."

On motion this Society unanimously adopted the protest.

The United States Dispensatory—Fifteenth Edition.—Messrs. J. B. Lippincott & Co. announce the appearance in January of this well-known work. The revision has largely occupied the time for the past three years of Dr. H. C. Wood, Prof. J. P. Remington and Prof. Samuel P. Sattler, and will be thorough and complete.

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Cincinnati, December 23d, 1882.

The Week.

A MERRY CHRISTMAS TO OUR READERS.

1883.

MOST of our readers are making up their lists of periodical literature for the ensuing year. We have practical evidence that the friends of THE LANCET AND CLINIC are growing more and more numerous and to stimulate the affections of each member of our guild, we will send the journal to one old and one new subscriber one year for $6 00. This makes THE LANCET AND CLINIC very much the cheapest medical journal published.

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——NOW IS THE TIME.——

THE HEALTH OF AMERICAN WOMEN.—In a recent number of the *North American Review* appeared a triune article on the above subject by Dr. Dio Lewis, Mrs. Elizabeth Cady Stanton and Dr. James Read Chadwick. Dr. Dio Lewis thinks that American women would be healthy if they would leave off corsets, exercise in the open air and ride on horseback astride, after the fashion of men. He concludes his article as follows: "But, while we are so proud of our telegraphs and railroads, and grand inventions, and magnificent improvements, and large corn-crops that we run our printing presses all night to proclaim our glory to the rising sun, our doctors, standing in the midst of a nation of men sucking tobacco, caution a nation of corseted women to go slow and lie flat on their backs three months every year." He thinks this advice, for women to lie still and keep quiet for a considerable portion of their time, is necessary for women who wear corsets, but not otherwise.

Mrs. Stanton thinks that the ill health of our women is caused by the manner in which they are reared. She thinks that the mental and physical training of boys and girls should be just alike—then, and then only, will they enjoy equal health.

Dr. Chadwick is rather of the opinion that our women are as healthy as any in the world. "I fail to recognize the fact as asserted, that our women are, as a whole, less healthy or robust than those of other countries. And I have seen so vast an improvement in their physical and mental vigor during the few years over which my personal observation extends, that I feel encouraged to predict for them in the near future as great pre-eminence in physical and mental strength as is now universally accorded them for physical beauty."

Dr. Chadwick's opinion seems to be much the most reasonable. The pet ideas of the first two writers are very evident in their papers. We all know that fresh air and exercise, with the body untrammeled by tight garments, is almost a necessity to the enjoyment of good health. There is no doubt that many of the ills which now afflict our women might, by physiological living, be alleviated; but there is no proof that our women fare so much worse than other women in respect to physical development and general health.

Bibliography.

RHEUMATISM, GOUT, AND SOME ALLIED DISORDERS.[1]

This forms the October number of Wood's Library of Standard Medical Authors. The name indicates the scope of this volume, pretty much all that is worth knowing, along with considerable that is of no value in regard to the subject. The latest methods of treatment are well given, much space being properly assigned to salicylic acid and its action. This book will add not a little to the author's already good reputation.

ASTHMA—ITS PATHOLOGY AND TREATMENT.[2]

This volume is the September number of Wood's Library of Standard Medical Authors. Prof. Salter is authority on the subject of asthma, and this work embodies the results of his large experience. It is a complete monograph on this troublesome disease, and can be advantageously studied by the large majority of general practitioners.

THE *North American Review* for January opens with a symposium in which three of the most prominent advocates in this country of the "Revision of Church Creeds," namely Rev. Dr. Newman Smyth, Rev. Henry Ward Beecher and Rev. Dr. Lyman Abbott participate. "University Education for Women," a question that just now is being warmly agitated both here and in England, is discussed by Prof. W. Le Conte Stevens. Prof. Isaac L. Rice gives a "Definition of Liberty." "American English," by Gilbert M. Tucker, is a spirited defense of our cis-Atlantic fashion of English speech against the aspirations of sundry British critics. "Bigotry in the Medical Profession," by Dr. David Hunt, is a protest, from the pen of a respected member of the medical profession, against the First Commandment of medical ethics which forbids association with any but regular practitioners. Finally Charles T. Congdon, under the singularly apt title of "Adulteration of Intelligence," exposes some of the grave evils to be apprehended from the monopolization of telegraph lines, press associations and influential public journals. Published at 30 Lafayette Place, New York.

Selections.

MEDICINE.

"THE GERM ORIGIN OF DISEASE."—By F. J. B. Quinlan, M.D., F.K.Q.C.P., Physician to St. Vincent's Hospital, and published in *Medical Press*.

After explaining the details of the action of the yeast plant in fermenting a saccharine solution and converting the sugar into alcohol and carbonic acid, Dr. Quinlan said:

"Similarly in the human body, when the germs of measles enter through the respiratory passages, a period of what is called incubation occurs; the original germs are multiplying. At last the spores are thrown out, and an immense effervescence and fever, with peculiar eruption on the skin and respiratory passages ensue, and go on until the fermentative material in the system is exhausted; and the patient is convalescent, and as a rule protected against the recurrence of this particular disease. In 1868, M. Chauveau showed that the infective matter of cowpock, small-pox, and other zymotics consisted of a fluid containing vast numbers of minute particles subsided, the infection power of the fluid was gone; but that as particles remained they would multiply indefinitely in the human body. In their memoir on contagion, published in the *British Medical Journal* of the 21st of last January, Dr. Braidwood and Mr. Vacher describe the infective matter of measles as consisting of numbers of sparkling colourless bodies in the breath of patients, like those found in vaccine lymph, but larger. In small-pox minute organisms are found in the fluid of the pustules, and in typhoid fever Dr. Klein has found them surrounding the affected intestinal glands. The starting point of all these investigations was the discovery that the blood of animals, dead from splenic fever, swarms with minute organisms resembling little rods, and therefore termed bacilli, which multiply and throw out spores just like the yeast plant. The bacilli of splenic fever can be cultivated artificially in an organic fluid, and the crop can be continued from fluid to fluid. If after seven or eight such successive crops a rabbit or a guinea-pig be inoculated with the last fluid, it rapidly dies of the orignal splenic fever. Still more curious, it was microscopically proved that the blood of animals, where the rods only developed, rapidly lost its infective power: but that once the spores were thrown out, it retained it for years. This at once explained the reason why, while some stables and sheepfolds were, after an outbreak, fitted for the reception of animals by mere disinfection, others could not be so cleansed, and had to be destroyed."

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[1] Rheumatism, Gout, and Some Allied Disorders, by Morris Longstreth, M.D., one of the Attending Physicians of the Pennsylvania Hospital; Lecturer on Pathological Anatomy at the Jefferson Medical College, Philadelphia, Penn. New York: Wm. Wood & Co. October, 1882.

[2] Asthma—Its Pathology and Treatment, by Henry Hyde Salter, M.D., F.R.S., F.R.C.P., Physician to Charing Cross Hospital, etc., etc. New York: William Wood & Co., 1882.

The lecturer now entered into a description of small-pox, of vaccination, and of re-vaccination, explaining his belief that vaccinia was a natural attenuation of variolous poison occurring by the passage of the disease through the system of the cow; and that it exactly resembled the artificial, and preventive attenuation by Pasteur of the zymotic poison of splenic fever, and proceeded to say: "In considering this matter we must remember that the hard and fast lines between different diseases, as laid down in text books, do not exist in Nature, and that types of disease, like domestic animals and plants, are constantly undergoing change of circumstances and treatment. The most remarkable recent instance of this is the curious experiment of the Fraulien von Chauvin, who by a course of physical treatment converted a number of Mexican water-breathing axolotls with gills and rudimentary lungs into amblyostomas, similar animals living on land and with lungs. Another disease the result of germs is typhoid fever, in which multitudes of infective germs are thrown off in the ejecta of the patient. Should sewage containing these get into the water supply of a district a whole community may be infected, as occurred at Bangor, North Wales, this year; and a similar result on a smaller scale has frequently happened when water so polluted has made to do the duty of 'the cow with the iron tail.' Typhoid fever is popularly supposed to be due to bad smells and sewer gas, but it is really due to the germs contained in these; and in reference to this there are noteworthy points. One is, as shown by Carpenter, that if sewage be poured through Italian ryegrass the sponglobes destroy all germs, and leave the resulting fluid so far harmless. The other is, that although germs will pass through the finest filters, filtration through spongy iron entirely destroys them. The well water of Antwerp—now rapidly becoming the greatest emporium of Europe—is brackish, and unfit to drink; accordingly the inhabitants have recently got up fine waterworks in which they apply spongy iron filtration—which is the invention of Professor Gustav Bischof—on a large scale to the water obtained from the river Nette. Dr. Frankland has visited the Antwerp waterworks at Waelheim, about fifteen miles above that city. and reported on the results of his inquiry. He attaches especial value to the fact that spongy iron filtration 'is absolutely fatal to bacteria and their germs,' and he considers it would be 'an invaluable boon to the metropolis if all water supplied from the Thames and Lea were submitted to this treatment in default of a new supply from unimpeachable sources.' Another remarkable germ product is the malarial fever of the Roman Campagna, of Algeria, and of other places. Noticing that it always ensued on the breaking up of new ground, Klebs and Crudeli examined this soil and found germs, which, entering through the respiratory passages, produced the well-known malarial affection. It is well-known that the daily use of a small quantity of quinine by the dwellers in ague districts will prevent this affection; and further, that when it breaks out larger quantities of this drug will cure it. Quinine is a powerful protoplasmic poison and destroyer of germs, and its curative action in ague becomes at once intelligible. There is excellent reason to believe that rheumatic fever is also a germ disease; but as this is argued from analogies, and not yet practically proved, we must speak with reserve on this point. Sunlight is a powerful destroyer of germs, which are, on the other hand, much favoured by dirt and damp, and that is the reason why no house is wholesome in all its parts unless it face either east or west, so that the sunlight during half the day may penetrate every part of it; likewise why cellars and deep basement storys are unfit for human habitation. Nothing has as yet been done to attenuate the poisons of measles or scarlatina; but if we can argue from what has been done in similar cases, it is probable that it will ere long be done; and these maladies, which now rank almost as inevitable diseases, will become as little as small-pox. We are accustomed to them, but the amount of collective injury which they do to the community is immense. When they break out for the first time in isolated communities, and attack young and old simultaneously, they amount to actual plagues. This occured a few years ago in the Fiji Islands immediately after their annexation and cilvilisation. Later back, it happened in the Faroe Islands, where the whole population were at once laid low, except some very old persons protected by an outbreak which had occurred about sixty years previously. One of the islands escaped in a very curious way—it is the southern member of the group, and is twelve miles from its nearest neighbour. Learning what was going on in their sister islands, the Suderoe men drew up their boats into their island, and, maintaining an armed guard day and night for three months, threatened instant death to any stranger who would dare to land. This rough quarantine proved perfectly effectual, and when the neighbouring epidmic had burned itself out, this sanitary Thermopylæ stood unharmed. This brief review of germ disease would be incomplete without some notice of its latest and most brilliant advance in the discovery of the tubercle bacillus. Up to a recent period it was generally believed in these countries that pulmonary consumption, although of a hereditary type, was not an infective disease. In Southern Europe the contrary opinion has always prevailed; and even here cases occurring of undoubted communication of the malady between individuals brought in close personal contact, caused many a doubt to the thoughtful physician. The matter was set at rest by the discovery of Villemin that tubercle was inoculable, and this was followed up by Koch, of Berlin, who discovered the tubercle bacillus, cultivated it, and communicated it to animals. This bacillus is a species of alga, and is found swarming in phthisical cavities and in the expectoration of consumptive patients. Externally, it is very similar to other parasites which have nothing to say to tubercle. Herr Koch pointed out that the tubercle bacillus can be easily distinguished from all others by its behaviour in the prescence of certain aniline dyes. As this bacillus is about the third of the size of a blood globule, any reasonably good microscope will detect it, and we have the diagnosis of pulmonary consumption thus reduced to the simplicity and exactness of a chemical test. The matter was now taken up by the German Government, who established the Imperial Health Office, the creation of Prince Bismarck, appointed Koch as its Director, and made him a Councillor of State; for in Germany medical science is honoured and decorated, instead of being hunted into foreign countries by antivivisection acts. Supplied with ample means, Koch pursues his investigations in a spacious building, and provided with all necessary assistants and accessories. The animals experimented upon are all kept in cages, and each cage represents an experiment, and the greatest care is taken to secure proper ventilation and to avoid all causes of disease arising from defective hygiene. There are curious differences in the susceptibility of different animals to tubercular infection. Rabbits and guinea-pigs are most susceptible, and barn-door fowls still more so. It was at first believed that dogs could not be infected; but it has been found that they can, especially if wholly fed on vegetables. As a rule, herbivorous animals are much more susceptible than carnivorous, a fact which explains the well-known potencey of a meat and nitrogenous diet in saving consumptive patients. Further, an abundance of pure air constantly changed is a great protective, and air for a long time re-breathed an injury—another striking analogy. Consumptive infection is carried by the breath or expectoration of consumptive patients; and there is no doubt that while many persons are very susceptible to infection, particularly when in a lowered state of health or badly nourished, or when the tendency is hereditary, many others are not susceptible at all. It is also a consoling fact that tubercular bacilli, unless kept outside the body at a temperature of 100 degrees, at once die, differing, fortunately, in this respect from those of splenic fever, which, as already described, sometimes linger for years where animals are kept. Time forbids me to dwell longer on this interesting topic."

Two Cases of Diphtheritic Spinal Ataxia.

Drs. Julius Rudisch and George W. Jacoby, Physicians to the Class of Nervous Diseases of the German Dispensary of the City of New York, contribute the following to the *Archives of Medicine:*

The subject of paralysis consecutive to acute diseases of various nature has received ample notice at the hands of many writers on nervous affections. Especially have the paralytic derangements which follow diphtheria been accurately and thoroughly described; it would therefore be entirely superfluous to reiterate what has been told so many times, and we shall consequently not enter into a description of diphtheritic paralysis in general, but refer more particularly to a certain peculiar form of these accidents.

The fact that the differential diagnosis between a diphtheritic paralysis of the lower extremities simulating locomotor ataxia, and a genuine case of tabes, may become difficult, seems to have attracted the attention of only a few writers upon this subject. In nearly all books the articles on locomotor ataxia, or those on diphtheritic paralysis, entirely ignore the possibility of the two diseases being mistaken for each other, and it is precisely on account of having met with this difficulty ourselves that we have been led to call attention to the cases which will be found further on.

As early as 1836 Orillard, in Poitiers, mentioned ataxic symptoms as late sequelæ of diphtheria, and Trousseau, Sée, and Maingault had remarked the unsteady gait in certain cases of diphtheritic paralysis, and had even attributed it to muscular anæsthesia. Eiseman and Jaccoud, however, were the first persons who seemed to separate the motor paralyses of the lower extremities following diphtheria from ordinary paralyses, and to classify them as cases of diphtheritic locomotor ataxia, and it is with them that the name diphtheritic ataxia originated. Eiseman and Jaccoud, however, do not agree, inasmuch as Eiseman considers all cases of anomaly of movement following diphtheria as ataxia, whereas Jaccoud makes a distinct differentiation between paralysis and ataxia. Afterward English writers, Grainger Stewart, Foot, and others, described cases of this disorder, and in late years several more have been added to the list, so that at present the existence of such a disease is undisputed. Eulenburg, who, in the first edition of his text-book, speaks of an "apparent incoördination," in his later editions distinctly acknowledges the existence of a real diphtheritic ataxia. Brenner speaks of diphtheria as being able to cause incoördination of movements without atrophy of the muscles, and with normal electrical contractility of both muscles and nerves. His is probably the best and most lucid classification of the nervous sequelæ of diphtheria. He divides the anomalies of movement following this disease into three groups. In the first group he classes those cases in which the interference of motion is due to pure ataxia. In the second, those in which it is due to an ataxic paralysis, characterized by a paresis of certain muscular groups, and the more complete paralysis of certain others. In the third, finally, those which are due to a true paralysis. The cases which come under the first heading, namely, those where the anomalies of motion are due to pure ataxia, are quite rare, and therefore those recorded further on will be of interest.

The facts about ataxia in general are so well known that it is not necessary to review them here; it is only requisite to state that we can divide all disassociation of movements into spinal and cerebral (includes cerebellar). We desire particularly to call attention to this point, for the cases of cerebral ataxia following diphtheria are not at all rare; in fact, in many cases of diphtheritic paralysis there exists a certain amount of ataxia, associated with obtuseness of intellect, dizziness, headache, and cerebral symptoms in general. These cases, then, have, by various authors, according to the preponderance of the paralysis or of the ataxia, been described as cases of diphtheritic paralysis or diphtheritic ataxia. Langner, under the supervision of Prof. Berger, reports several cases of cerebral ataxia following diphtheria, and the majority of cases published as diphtheritic ataxia come under this category.

Case 1. J.H., twenty years of age; grocer. Temperate habits; had always been well until the 17th of December, 1879, when he caught cold by exposing himself to the night air, and the next day complained of pain in his throat and difficulty in swallowing. These symptoms augmented in severity until the 22d, when he was obliged to take to his bed. He remained in bed until the 25th, during which time he had medical attendance. His physician told him he had "ulcerated sore-throat, and that it was full of "blisters." He claims not to have had any fever. Remained in the house until the 2d of January, and then feeling quite well, and not having any more pain in his throat, he went to work again. Two weeks after he noticed that his voice had become nasal in character, that frequently while swallowing he spluttered the food out through his mouth and nose. He describes it as though a cramp of the muscles took place, which threw the food, especially fluids, back. At times particles of food also entered the larynx. These symptoms, however, only lasted a few days, and then disappeared. Thereupon he complained of weakness of the lower extremities, and following this, of the hands. The condition of patient when he came under our observation, March 1st, was as follows:

Patient is tall, strong-looking, and well built. Tongue, mouth, throat, and uvula normal. Swallows without any difficulty, has good appetite, and digests well. Circulatory, respiratory, and genito-urinary systems healthy.

Voice slightly nasal, but he claims that it was always so. In examining the upper extremities we found the sensibility to heat and pain normal. He does not localize perfectly, and there is a retardation in the appreciation of sensation of several seconds; thus, when his eyes are closed, he does not feel the prick of a pin on the back of his hand until fully two seconds after he has been so pricked. The muscular power does not seem to be diminished, and the movements of his hands are not noticeably affected; but the more delicate movements of the fingers, movements requiring great precision, are executed with unsteadiness. He cannot button his clothes, or pick up any small object. If he endeavors to pick up a needle from the table, he only succeeds in doing so after many awkward attempts. The lower extremities also retain full muscular power, but he walks very unsteadily and has a marked ataxic gait. His knees knock together at intervals while walking. The sensibility to touch, heat, and pain is normal, except in the soles of the feet. When he walks he says he cannot feel the floor distinctly, but that he feels as though he were walking on a sponge. This unsteadiness in walking is increased by closing his eyes. If he stands with his legs spread apart he is more steady, but when he brings them together, he must sustain himself to avoid falling.

Muscular development good.

Patellar tendon reflex entirely missing. Achilles reflex not obtainable. Reaction of both galvanic and faradic currents normal. All cerebral symptoms, as dizziness, headache, vomiting, anomalies of speech and intelligence, were wanting during the entire course of the disease. Patient was treated by sulphate of strychnine pills, $\frac{1}{60}$ grain each; one pill four times daily. Under this treatment he gradually recovered, until May 1, 1880, when, with the exception of the patellar reflex, which was still absent, he was entirely restored to his normal condition. In May, 1882, I again saw the patient, and after the lapse of two years found the *patellar reflex present*, but weak. Otherwise patient is and has been perfectly well.

Case 2.—H. R. came to consult us the beginning of June, 1881, and we then made the following notes in our case book:

Family history is, with the exception of one living brother, who is idiotic, uninteresting.

Previous history: Patient was, with the exception of a short cough and occasional headache, both of which he has had since childhood, well until a short time ago. He served through the entire Franco-Prussian war, and was subjected to great hardships and deprivations. He, however, did not seem to have been affected by these, and remained in good health until last March, when he caught cold, had a sore throat, and remained in bed eight days. He said that his throat was covered with "white blisters." About fourteen days after getting out of bed, he noticed that his voice had become nasal in character; also, that he had difficulty in swallowing, especially so when he attempted to swallow liquids, as these were frequently thrown back through the nose, or, getting into the larynx, gave rise to violent spells of coughing. This condition lasted about three weeks, when he noticed quick-shooting pains in both arms and legs. These pains were very severe, and prevented him from obtaining any sleep. A short time thereafter, he began to feel unsteady on his legs, and the floor did not appear solid to him. He says it felt as though it were sinking from under him. He could hardly walk at all in the dark, and walking upstairs was very difficult at all times. Then his hand became effected, first formications, and then numbness of the tips of his fingers supervening. He did not feel objects that he held in his hand. but was cognizant of their presence only by watching them. Frequently let cups and saucers fall from his hands; this occurred particularly when he turned his eyes to something else. Had great difficulty in buttoning his clothes. These symptoms have increased in severity up to the present time.

St. Pr.—P. is a tall, well-built individual, of healthy appearance. Complains of sharp shooting pains in the extremities, but these he says are not as severe as they formerly were. Cannot stand with closed eyes, as he becomes dizzy and would fall if he were not held. Has a feeling as though he were standing on a very thick carpet. Cannot walk in the dark. Muscular force of legs normal. His gait is decidedly jerky; lifting his foot high from the ground, he throws it violently forward, and then brings it sharply to the ground.

Patellar tendon reflex entirely absent.

The muscular force of the upper extremities is also undiminished. The muscles are not atrophied. Has a feeling of numbness in his fingers. With his eyes closed, he cannot distinguish between a pin and a penholder. He can distinctly feel the prick of a pin, but cannot localize it well. Cannot button his clothes without great trouble.

Pupils react well. Eyes normal. Reaction to both electrical currents normal. The treatment employed was: sulphate of strychnine, three times daily, $\frac{1}{60}$ of a grain, internally; and, three times a week, a descending galvanic current of sixteen Léclanche elements, along the spinal cord.

August 1. Patient is some improved. He still cannot walk in the dark. There is a decided improvement in the hands, as he can now button his clothes and dress himself unaided. He claims that they still, however, feel somewhat numb. Patellar tendon reflex still absent.

I then lost sight of patient, and did not again see him until January, 1882, when I had opportunity to re-examine him, and found him fully recovered; able to walk without trouble. No apparent ataxia, either of hands or feet. *Patellar tendon reflex normal.* Says he never felt better, and that he can walk long distances, and is again able to work at his trade, which, being that of a watchmaker, requires fine and precise work.

In these cases, therefore, there being only an incomplete history of diphtheria, and the patients coming under observation after all diphtheritic symptoms had passed away, and at a period when none but tabetic symptoms were present, the possibility of mistaking the disease may be appreciated; the second case particularly, as it occurred in a man who had committed excesses of various kinds, and been exposed to manifold deprivations. There can be no doubt whatever as to the existence of the ataxia, the unsteady gait, the planting down of the heels, the throwing, jerky movements in walking, the unsteady and irregular movements of the hands, are probably sufficient as proofs of its existence. The only question yet remaining which admits of any doubt, is whether the ataxia in these cases can be termed identical with that existing in tabes dorsalis. Certainly, considering the absence of all symptoms which are generally present in cerebral ataxia, we are not warranted in searching anywhere outside of the spinal cord for an explanation of this inco-ordination.

Dizziness, headache, vomiting, anomalies of speech, or cloudiness of the intellect were not present during the entire course of the disease. On the other hand, the symptoms which were present, such as the formications, the dizziness when standing with closed eyes, the gradual course, first the lower and then the upper extremities becoming affected, and, above all, the anomalies of reflex action, the absence of patellar reflex, render it almost a certainty that the anatomical site of the lesion does not differ from that found in progressive locomotor ataxia, although considering the course of the disease, and the rapid convalescence, we certainly cannot think of a sclerosis, but must attribute it to some more ephemeral lesion, if we have the right to apply the word lesion at all.

A very important feature of these cases, and one to which very little attention has been paid in cases of diphtheritic ataxia, is the absence of patellar tendon reflex, with its subsequent return. Rumpff, in reporting a case of pure spinal diphtheritic ataxia, of which I will mention the salient points, speaks particularly of the absence of patellar reflex. So does also Langner. Rumpff's patient was a girl, nine years of age, who had a severe attack of diphtheria, and who, during the course of the disease, had difficulty in speaking and swallowing. Four weeks subsequently, paresis of accommodation, insufficiency of the recti interni, and paralysis of the soft palate. After fourteen days she became easily fatigued, had a staggering, unsteady gait, and the more minute movements of the fingers were hampered and executed with difficulty. Reflex and patellar tendons absent. Weakness of extremities. After another lapse of fourteen days, the heels are brought down suddenly, the feet thrown forward, and the skin reflexes almost absent. Muscular force normal. Ataxia of lower as well as upper extremities. Gradual improvement, and after four months power of co-ordination was again present. The tendon reflexes, however, remain absent for five more weeks.

Autopsies have not been frequent in diphtheritic paralysis on account of the rarity of a lethal issue during this condition, and formerly the result of the few *post-mortems* which were made was always a negative one. This, however, need not surprise us when we consider that the aid of the microscope was rarely called into requisition, and that when it was, it was done without the use of staining materials which are of so much service to us in histological and pathological research.

The supposition of Bretonneau, that the paralysis is only a local extension of the diphtheria, is to be cited solely for its historical interest.

Trousseau's theory, which was also supported by Maingault and See, that the paralysis is due to systemic poisoning, the blood becoming vitiated by the absorption of the diphtheritic virus, becomes improper to sustain normal nutrition and the normal excitation of the nervous nutrition and the normal excitation of the nervous centres, *ergo*, the paralysis, certainly at first makes a favorable impression upon the mind; it has now, however, become entirely untenable. This theory of poisoning has been strongly contested by Prof. Gubler, who observes that sometimes cases of ordinary sore throat, without any specific character whatever, are followed by paralysis of the soft palate. The simple œdema which occurs in most all of these cases would, however, be sufficient to account for this local paralysis. Whether the paralysis be due to vitiation of the blood or not, the question which will naturally propound itself to us, is whether there is any nervous lesion, and if so, where and what that lesion is.

This can be best answered by briefly reviewing the facts now known. The present state of our knowledge, according to Dr. Magne, is as follows:

In 1862 Charcot and Vulpian in a woman deceased during a diphtheritic paralysis of the same palate, found evident changes in the motor nerves supplying this part. In 1869, Lorrarn and Lépine mentioned a similar case, and Liouville has observed an analogous change in the phrenic in a case of diphtheritic paralysis of the diaphragm. Bühl, in 1867, noticed a marked alteration in the roots of the spinal nerves, the cord itself being unaffected. He found the spinal roots and ganglia thickened, discolored, and softened; the neurilemma and the interstitial substance diphtheritically infiltrated. His theory is that the paralysis is caused by this exudation, and if it is absorbed the case ends in recovery, but if, on the contrary, it is changed into connective tissue, the normal state is not restored. Bühl also found capillary hemorrhages in the brain.

R. Maier, in 1870, found microscopical changes which corroborate those seen by Bühl.

Oertel has noticed capillary hemorrhages in the rachidean as well as in the cerebral dura mater; also in the sheaths of the nerve-roots and of the peripheral nerves. In the anterior cornua of the cord, he observed an increase of nuclei and small hemorrhagic infarction. He also found larger hemorrhages in the brain, cord, and peripheral nerves, and found the central occluded by a cellular exudation.

H. Weber supports the view that the paralyses originate by means of a change which is unknown to us, and which is as yet undiscoverable, starting at the periphery of the nervous system (the seat of the diphtheria) and being propagated to the spinal cord in an analogous manner, as in traumatic tetanus, the propagation takes place in front the seat of injury.

Pierret in examining the hardened spinal cord of a man deceased during a diphtheritic paralysis, which in the fresh condition was of normal appearance, found a number of changes. The dura mater was adherent, partly thickened and roughened. Upon section the diphtheritic changes became apparent. He found a meningitis, and an exudation in the meninges similar in all points to the pseudo-membranes in the larynx. Vulpian, however, who examined three other cases subsequently, failed to corroborate this.

A more recent investigator of the subject is Dejerine, who in five cases found the same kind of lesion. He found in all his cases a parenchymatous degeneration of the anterior roots. He found constant light changes in the gray substance of the anterior horns. He considers the whole as a slight parenchymatous and interstitial poliomyelitis anterior, and looks upon this as the primary change in diphtheritic paralysis. The alterations in the nerves and in the muscles are, according to his view, only secondary trophic changes.. The various sites of the changes, then, as they have been found in the divers cases, would also explain the diversity of the paralytic symptoms. Thus, to explain the paralysis of the soft palate, the tongue, and lips, we must place the seat of lesion in the medulla oblongata. So again in cases where there were anomalies of sight and hearing accompanying the paralysis, the origin of the optic and auditory nerves were affected. In a case where Pierret found the changes in the lumbar region, the subject had been paraplegic. We have not been able to find any reported autopsy of a case of pure diphtheritic ataxia, therefore are unable to say whether the seat of lesion is in the posterior columns of the cord, as from our cases with their tabetic symptomatology and their long ensuing absence of patellar reflex, we would be led to suspect.

As regards the prognosis and treatment there does not remain very much to be said. Most cases end in recovery, and are not of very protracted duration. The treatment employed in all reported cases had been the use of the sulphate of strychnine, internally or hypodermically, the use of the galvanic current along the spine; or both of these measures combined. Whether the disease is curtailed in its course by these measures, or whether it is self-limited, would be hazardous to say, as the cases from which we are forced to draw our conclusions are not sufficiently numerous.

SURGERY.

The Saw-Shears of Dr. A Ceccarelli, for Resection of the Long Bones.—Translated from the description of Dr. F. Topaj.

The author does not believe that resection is an ancient operation, performed by Celsus, Scultetus, etc. It is true that in that time surgeons would remove pieces of bone, in continuation of the work initiated by nature; but it would not be a true resection to remove a part of a bone, leaving the form, function, and dimensions of the limb intact. The observations of Duhamel, and the classical experience of Troja, Vigarous, Macdonald, and other surgeons have made familiar the reproduction of bone by the periosteum. This operation only acquired its complete usefulness when, after the removal of the diseased bone, its reproduction could be secured by means of the preserved periosteum.

The author claims the sub-periosteal exsection as an Italian discovery, it being first performed by Larghi, of Vercelli. Vidal, of Cassis, maintained the impossibility of dissecting off the periosteum. The surgical instruments for sawing out a piece of bone were indefinitely multiplied. The chain-saw remained in use for cases where the bone could not be severed with bone-forceps. The efforts put forth to find a substitute for this instrument sufficiently proves the inconvenience of the chain-saw, its use endangering the soft parts.

Dr. A. Ceccarelli has endeavored to substitute for this instrument another capable of speedily cutting the bone without injuring the muscles. Dr. C. calls his instrument the saw-shears, and with it has had very satisfactory results in many cases. It is a true saw like unto shears, or forceps. Each of the sawing blades is prolonged in the same part with its lever and joined with the other blade by an articulated branch at the extremity of the handle, so as to represent a quadrilateral figure. To open the saw it is necessary to push in the branch lever (or separate further the handles). When the bone is between the blades the instrument is taken by the handle and a movement of oscillation saws the bone. The application of the instrument is very easy. After the incision of the skin and soft parts the periosteum should be opened.

The soft parts are held aside by a retractor and an assistant holds the bone with the forceps.

The saw-shears having been applied, the retractors and forceps are withdrawn as the jaws of the instrument are round and keep so closely applied to the bone that the soft parts can not be injured. A. R.

Correspondence.

FOREIGN NEWS.

LONDON, ENGLAND, Nov. 25, 1882.

Editors Lancet and Clinic:

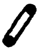
In your issue of May 13th, 1882, there appears a short article translated and commented upon by J.M.F. It concerns the subject of bacteria as experimented upon by Prof. Rosenberger, of Würzburg, as connected with the forms of septicæmia known as Davaine's and Pasteur's. I followed about that same time a series of experiments performed by Mr. Dowdeswell in Dr. Sanderson's laboratory in University College, London, and the results are so interesting that I transmit a copy of his experiments as reprinted from the journal of the Royal Microscopical Society.

As pointed out by Mr. Dowdeswell, in the one case where the septic poisoning occurred with the fluid sterilized by heat, there was reason to suppose that some portion of the fluid had become dry and hardened on the sides of the tube and had been the cause of the re-infection. That has its simile in the everyday observation of how a dried vaccine scab will retain its activity an indefinite period, whereas, in a fluid state, it loses its activity much sooner. I would beg leave to offer another source of outside infection, and one which has been open in the case of both experimenters, viz.: the syringe. It is quite likely that minute specks from former injections might become dried upon the syringe, or that it might retain some infecting bacteria in the cylinder or needle. Mr. Dowdeswell was aware of the fact that there was liability of outside infection from that source, and consequently used the utmost care, and attempted a thorough disinfection of his syringe by carefully washing it out in a concentrated solution of permanganate of potash.

Professor Rosenberger seems to have been aware of the chance of infection from his syringe also, and to have used a solution of carbolic acid to disinfect it, but as we all know carbolic acid is at best a poor and uncertain antiseptic, and no doubt this fact will partly account for the great discrepancy in the results of the two observers.

Mr. Dowdeswell has not only repeated the experiments of Prof. Rosenberger, but extended them further and shown that the infective blood when diluted 100,000,000 times retains its virulence.

The size of the organism and the number of them which could be crowded into a cubic centimetre of blood (the amount used) are things which can be calculated, subject, however, to the error, to which the high powers of the microscope used are always liable, namely, a difficulty to focus them clearly, and, of course, the change of focus affects their apparent size and measurement. However, the result was approximated, and it was determined that there were certainly not more than five or six organisms in the amount injected which produced the disease. Such a result seems to closely approximate the opinion which Dr. Klein expressed to me in reference to anthrax. I believe the fluid is infective so long as one living organism remains and is injected.



The shape of the bacterium of Davaine's septicæmia is this. It is very small and requires one-fourteenth to one-sixteenth inch lens with high angle and good illumination to clearly make out the end structure, and that can only be clearly seen after staining with methyl violet.

I have wanted to write these details to the LANCET AND CLINIC for some time, but, of course, was compelled to await the appearance of the author's paper. The copy of his paper, which he has kindly sent to me, I forward to you, and so interesting is it in this connection that I deem it worthy of a recommendation to you for republication. Very truly yours, W.A.D.

"On the Action of Heat upon the Contagium in the two forms of Septicæmia known respectively as 'Davaine's' and Pasteur's.'" By G. F. Dowdeswell, M.A. (Cantab.). F.L.S., F.C.S., etc. Communicated by J. Burdon Sanderson, M.D., LL.D., F.R.S., etc. Received June 15, 1882.

Professor Rosenberger, of Würzburg, has recently published the results of experiments, (*Centralb. f. d. Med. Wiss.*, 1882, No. 4, pp. 65 69), by which he claims to have effectually sterilized by heat, the blood and exudation fluids of the rabbit in the two forms of septicæmia, known as those of Davaine and Pasteur; and he states that these fluids so sterilized, upon injection into other animals, were found to be infective, reproducing the disease with the recurrence of the specific organisms which characterise it; he therefore regards these organisms as having no causal connection with the affections in which they are found, but as merely secondary or epiphenomenal. That this would be the necessary deduction from the experiments mentioned, if it were proved that the fluids had been effectively sterilized, is obvious; but the account published contains no details whatever of the methods employed, nor protocol of the experiments, so that it is impossible either to discuss them or to form a judgment as to the correctness of the conclusions. They, however, involve a question so important in respect to the theory of contagium vivum—the relations of these micro-organisms to disease—that it was determined to work out the subject on the basis indicated in Professor Rosenberger's paper, adopting such methods and precautions as appeared necessary.

PART I. *Experiments upon Pasteur's Septicæmia in the Guinea Pig.*

Guinea-Pig No. 1.—0·7 cubic centim. of putrid ox-blood was injected with a Pravart's syringe, into the peritoneal cavity of a full-grown guinea-pig, which the next morning was found recently dead, rigor not having set in; round the place of injection there was some subcutaneous exudation, with destructive inflammation of the tissues of the abdominal wall, sections of which showed numerous bacilli and micrococci in the layers of connective tissue between the muscles. Acute peritonitis was found with a large exudation of serous fluid containing some extravasated blood-corpuscles, and deeply stained with their coloring matter. The fluid in this case was not very coagulable, differing in this respect from some others. The same day 0·5 cubic centim. of the peritoneal exudation fluid of No. 1 was injected into the subcutaneous tissue of the abdomen of guinea-pig No. 2, which, as the following day was Sunday, was not examined until Monday morning, when it was found dead, and in a much more advanced stage of decomposition than would have occurred normally in the same period. In all forms of septicæmia this rapid decomposition is invariably found. Guinea-pig No. 3 then received in similar manner 0·5 cubic centim. of the diluted subcutaneous exudation fluid of No. 2, which, likewise, was not coagulated. On the following morning No. 3 was found dead but still warm; the abdomen was infiltrated with a large quantity of subcutaneous exudation fluid, deeply stained with hæmoglobin, and containing some extravasated blood-corpuscles, as well as numerous active bacilli and some micrococci or spores. The serous fluid was not very coagulable; of this a portion was mixed with equal parts of normal saline solution, freshly made and boiled, containing in addition one per cent. of potassic carbonate, to render the serum alkaline and prevent coagulation upon boiling, which it did effectually. Vacuum tubes of about ten millims. diameter and ten centims. long, previously prepared, were then partially filled with this liquid by breaking their points under its surface; these were then placed one by one in a small flask of salt solution, to avoid frothing and splashing; this was then heated, and when the liquid was boiling freely, the tube enclosing it was resealed by the blow-pipe. The tubes were then placed in the hot air chamber, the temperature of which was gradually raised to 140° C., and maintained at nearly that point for one hour. No coagulation occurred upon heating, but it was found in subsequent experiments, that, inasmuch as the degree of dilution and alkalinity required to prevent this, varied in different cases, both with exudation serum and with blood, it was necessary in every instance to determine this point experimentally. The same evening guinea-pig No. 4 received by subcutaneous injection 0·3 cubic centim. of the exudation fluid of No. 3, diluted and prepared as above-mentioned, but unheated, while guinea-pig No. 5 received in similar manner 0·3 cubic centim. of the same fluid superheated and cooled. The following day, twenty-five hours after injection, No. 4 was prostrate, in a state of collapse, and the next morning was found dead with the same symptoms and micro-organisms as in previous cases, while No. 5 was quite unaffected, feeding heartily and with temperature unaltered. This animal remained healthy and unaffected for some days, and subsequently died from an accidental cause. On examination no symptoms whatever were found, either of septicæmia or peritonitis; there was no exudation of any sort and the blood was free from organisms. The following day the exudation fluid of No. 4 was diluted and rendered alkaline in the same manner as in the previous experiments, enclosed in tubes and superheated as before; of this 1·0 cubic centim. was injected into the subcutaneous tissue of guinea-pig No. 6, which, notwithstanding the large quantity it received, remained totally unaffected and was ultimately killed.

Some cultivation experiments were then made in different nutrient fluids, both with the sterilized and the unsterilized exudation serum, the result was that in all cases excepting one, in which there was reason to believe that the result was due to accidental contamination, no development of organisms occurred with the sterilized fluid, which it invariably did with the unsterilized.

In the septicæmia of Pasteur, the characteristic organism is a Bacillus, somewhat similar morphologically to the *B. anthracis*, and one of the forms of the hay bacillus, *B. subtilus* of Cohn, the ubiquitous organism which developes so readily and constantly in most organic infusions, from atmospheric or other contamination, and until the specific morphological characters of these organisms are better discriminated than they are at present, that is probably until there is a further substantial advance in our optical appliances, it is scarcely safe to draw any conclusion from their occurrence in cultivations, unless these are numerous and repeated, with rigorous control experiments.

In this case, *i.e.*, Pasteur's septicæmia, or the malignant œdema of Koch, in the guinea-pig, I have invariably found both in this, as in other series of experiments, that in animals examined immediately upon death there are none of the specific organisms (the Bacillus described,—which is so large that it can be scarcely overlooked) to be found in the blood, or in any of the organs of the infected animal, and that the blood is not infective. After death, however, they speedily invade the organs of the animal, the kidneys and the spleen being apparently the first attacked; hence the necessity in all these cases of examining the subject immediately after death.

PART II. *Experiments upon the blood of Rabbits in the form of Septicæmia known as that of Davaine.*

This form of septicæmia in the rabbit, which has attracted so much attention, and has been the subject of so many experiments since those first published by Davaine and MM. Coze and Feltz, in 1869, is originated by the subcutaneous injection of a small quantity—a few drops—of putrid blood, usually that of the ox. Infection with the specific disease in this case, as in the parallel one of septicæmia in the mouse, is somewhat uncertain, and the law on which it depends has not been clearly determined. Usually, however, blood which is only a few days old,—three or four—is, as originally stated by Davaine, the most readily infective, but by no means constantly so. In the following experiments all the rabbits employed were young, and nearly of the same age and size, not quite full grown. The septicæmic blood used for injection was always diluted, generally with an equal bulk of freshly prepared and boiled normal saline solution; the quantities of blood given as injected, unless otherwise stated, are always those of the blood itself which was used, and not of the solution.

No. 1.—0·2 cubic centim. of putrid ox-blood some days old was injected into the subcutaneous tissue of the back of rabbit No. 1. In forty-eight hours afterwards the rectal temperature was found to be 106° F., and the animal died on the third day. In the blood from the heart, examined immediately after death, a few of the organisms characteristic of the disease (these are fully described in the forthcoming number, for June, 1882, of the "Journal Royal Microscopical Society") were found, and preparations made and stained by the Weigert Koch method, gave the same result.

Two hours after death 0·1 cubic centim. of the blood of No. 1 was injected into rabbit No. 2. Twenty hours afterwards the rectal temperature was 104° F., and the animal expired in my presence twenty-three hours after injection. Section was made almost immediately, within about five minutes after death, but the blood was found already partially coagulated in the cavities of the heart and in the vessels. The blood which remained fluid was quickly mixed with two parts normal saline solution, with the addition of three per cent. pot. carb., and 0·3 cubic centim. of this solution (=0·1 cubic centim. blood) was injected into the subcutaneous tissue of rabbit No. 3, which died within twenty hours after injection. A portion of the dilute alkaline blood was then placed in tubes, by breaking their points, sealed at a red heat, underneath the fluid; they were then immersed in a small flask of saline solution, sealed while boiling, and placed in the hot-air oven, the temperature of which was gradually raised to 140° C., and slowly cooled; it was maintained at a temperature of over 100° C. for upwards of one hour. It being then late in the evening, rabbit No. 4 was on the next morning injected with a Pravart's syringe full of the dilute superheated blood. This animal survived and was but slightly, if at all affected, notwithstanding the very large quantity of fluid injected. The following day there was no appreciable disturbance, whatever, but on the third day slight pyrexia occurred, the animal's skin felt hot to the touch, and the rectal temperature rose to 100·0° F., which, however, sometimes occurs normally in rabbits kept in confinement. Subsequently, it remained totally unaffected for several days, as long as observed, and was then destoyed.

Some days afterwards, the blood of another rabbit of a subsequent generation of the same infection, immediately upon death, was mixed with two parts normal saline solution, and two per cent. pot. carb., this was inclosed in tubes, boiled, sealed, and heated to 120° C., in the same manner as before.

Of the alkaline dilute blood (unheated) further diluted up to 100,000,000 times, 0·6 cubic centim. (=·000000006 cubic centim. of blood) was injected into the back of rabbit E, which died of septicæmia within twenty hours.

Of the dilute superheated blood, 0·6 cubic centim. (=0·2 centim. blood) was injected into rabbit F, which the next day was apparently unaffected, but died with the usual symptoms of septicæmia the following day, *i.e.*, thirty-nine hours after injection. In the blood were found the characteristic Bacteria, and it proved to be infective when injected in a small quantity into another rabbit. Upon this, the same day, a further portion of the same superheated dilute alkaline blood was injected in the same quantity (0·6 cubic centim.) into rabbit G. This rabbit remained totally unaffected, and survived as long as observed, twenty days after, although it had received upwards of 30,000,000 times the quantity of blood which had proved lethal to rabbit E within twenty hours.

Cultivation experiments have been made both with the superheated blood and with that in the natural state, taken upon death; but as it was found that the bacterium which occurs in these cases refuses to germinate in any of the various cultivating media employed, excepting only in the serum of ox-blood, and in that very sparsely and uncertainly, they were inconclusive; aud the greater part ef the cultivating glasses inoculated with blood of both sorts, after being kept several days in the incubator at temperatures between 30° and 40° C., unstable as the solutions are, remain to this day—a month subsequently—perfectly pellucid and unaltered, save from some loss by evaporation.

On considering these results, it appeared possible that, in the case where the superheated blood proved infective, from the method of filling the vacuum tubes, portions of the dilute blood drying on their sides, might have escaped perfect sterilization by heat; it was therefore determined to repeat the experiments with tubes filled by a method which should avoid this possible source of error. Tubes were made of thick German glass, about ·3 inch internal diameter, closed at one end and slightly drawn out three or four inches from the bottom; then the blood of rabbit H, which died in my presence, of transmitted infection, was immediately collected and mixed with three times its bulk of normal saline solution with the addition of three per cent. potassic carbonate. In this instance it was found that a less degree of either alkalinity or dilution would not prevent coagulation on heating. Of this blood further diluted up to the ten-thousanth degree, 0·6 cubic centim. (=·00006 cubic centim. of the unmixed blood) was injected into the back of rabbit I, which died of septicæmia in twenty-seven hours; the characteristic organisms were found in the blood, which on inoculation into another rabbit proved to be infective. A portion of the same alkaline dilute blood was then placed in the tubes above-mentioned, two to three cubic centims. in each, by means of a capillary pipette introduced to the bottom, contamination of the sides being avoided; the tubes were then drawn out by means of the blow-pipe to a capillary point, boiled in salt solution and sealed while boiling. One tube that was heated separately to 140° C. burst, as had been the case in several other experiments previously; the remainder were thereupon heated to fully 100° C. for six hours, when the temperature was raised to 130° C., were maintained at that for one hour, and then gradually cooled. Of this dilute superheated blood, rabbit K received by subcutaneous injection in the back 0·6 cubic centim. (=0·15 cubic centim. blood), and rabbit L received 1·1 cubic centim. of the same (=0.275 cubic centim. blood), that is nearly five thousand times as much as rabbit I had received of the unheated blood. Both these rabbits K and L were unaffected in any manner whatever; there was no appreciable variation of the rectal temperature; they continued to feed well, and did not lose flesh. They were killed ten days subsequently; and no material inflammation at or around the place of injection, and no thickening whatever of the tissues which occurs so markedly in all cases of infection could be observed; there was only a slight stain, as if by the coloring matter of the blood, in the subcutaneous tissue near the spot of injection.

From the result of these experiments I conclude that the active virus of infection, both in the case of Pasteur's septicæmia—the malignant œdema of Koch—in guinea-pigs, and in Davaine's septicæmia in rabbits, is destroyed by the prolonged action of a sufficiently high temperature; that blood or exudation fluid so treated is not infective, nor in any appreciable manner toxical, when injected in moderate quantities (up to one centim.) into other animals, while the same fluids unheated, are invariably and fatally infective in infinitely smaller quantities.

In Davaine's septicæmia in the rabbit, I have found throughout these experiments that the period of incubation is remarkably constant, death, after the first generation of infection by putrid blood, almost invariably occurring from about twenty to twenty-five hours, and consequently that if it does not occur within about that period, it may be concluded that infection has failed; it may die subsequently, as rabbits in confinement constantly do, more especially under the conditions in which they are kept in laboratories; but unless within about the period specified they do not die infected with specific septicæmia, the characteristic organisms are not found in the blood, nor is that blood infective; hence it is not necessary to observe such animals for more than a few days after inoculation.

These experiments were conducted in the laboratory at University College, with the co-operation of Dr. Burdon Sanderson, and at his suggestion.

CHLOROFORM IN CHILDREN.

Editors Lancet and Clinic:

Chloroform has been given to children with great confidence, a confidence which indicated almost positive security. Some recent events tend to show that even with the very young it is not "an unmixed blessing."

In a late number of the *British Medical Journal* Frank Shearer, M.B., reports a case of death from Chloroform in a child *seventeen months* old. Another evidence of the mistake of the profession, voiced by Mr. Lister, when he declared, in 1871, that children when anæsthetized by this drug enjoy an "immunity from danger."

Our accumulating experience shows that no age is entirely free from danger—the young, the adult and the aged may die. The young, however, seem to have greater resisting power, for out of seventy-one deaths but three were under five years of age. Pathological and physiological conditions apparently exerts a very indefinite influence; women have died during parturition; these, like the young, were supposed to be exempt.

I remember to have seen a strong, muscular man, who was undergoing an operation for fistula in ano, die; immediately an old and very, very feeble man of seventy years, who had lost both feet from exposure to cold, was brought into the amphitheatre and slept sweetly under Chloroform whilst the surgeon shaped up the stumps! In the strong man, who had died so promptly, an autopsy failed to find any disease whatever, except the local one in the anal region.

In the Shearer case the symptoms and the dead room revelations tended to show that the original embarrassment was in the respiratory centre. The experiments of Simons and Smyth, which induced many to give up Chloroform, showed unmistakably that it smites the heart, whilst Ether paralyzes the lungs. This death seems to be in direct contradistinction to the teachings of these experimenters.

In the case reported in the *British Medical Journal* the only efforts made for resuscitation were directed towards re-establishing respiration, but the surgeon regretted not trying Nélaton's plan of inversion. In the remarkable case reported by Dr. Marion Sims, as occurring with him and the celebrated French surgeon, the patient failed two or three times during a protracted operation and was as frequently restored. The theory of Nélaton and Sims was that Chloroform narcosis was caused by cerebral anæmia and that by inverting—raising up by the feet and suddenly letting the patient down, in other words jerking him up and down, doing it with a kind of thud, blood was dashed upon the brain, and thus the origin of the pneumogastric was stimulated and the heart's action re-established.

In these instances if there be cerebral anæmia, it is because the heart has been crippled and is unable to supply the brain with a normal supply of blood; it loses it faster through the veins than it is supplied through the arteries. The bloodlessness of the brain is secondary, the smitten heart is the primary factor.

Death from Chloroform commonly occurs during the first part of the administration, or rather from the first inspirations, this child's respirations grew feeble and more feeble, they could not be sustained even by artificial assistance, hence it is clear that in some cases, it kills by the lungs. The swift death which usually takes place shows, however, that the rule is with Simon and Smythe that the heart is its favorite organ, that in the large majority of cases it is invaded.

In my second unfortunate case, had I been aware of this important fact, the result might not have been so disastrous. I was removing an exostosis from the lower jaw, near the symphysis, when the field of the operation suddenly became bloodless, I was startled, but in an instant it began to flow, and I proceeded with the operation, and when the patient showed some feeling, the Chloroform was again administered. Before the completion, however, in about one minute, I was again astonished by the same phenomenon—the sudden arrest of hemorrhage. The blanched cheeks and pale lips announced the critical condition; the heart had failed the second time. It recovered from the first but this faint was fatal. The mistake, and a fatal one it was, consisted in giving the anæsthetic after the first intimation that the patient did not bear it well.

Up to this time the radical difference, the physiological action of Ether and Chloroform had not been determined. Anæsthetic deaths had not been analyzed; they were attributed to dyspnœa, asphyxia, apnœa, faint, paralysis of heart, paralysis of lungs, etc., etc. Sometimes one was given, sometimes another, and occasionally the reporter accused several of them of participating in the untoward event. No one can realize the unpleasant sensations which death from Chloroform produces; it must be felt to be understood. In that moment of confusion, the mind is in poor condition for analysis or synthesis. The Physician emerges damaged in mind and confused in morals. He sees a Coroner's jury about to take its seat upon him, and he descries, not in the dim distance, but in the near future, a suit for damages; so, at the moment of disaster, or immediately thereafter, he is in no conditon to estimate symptoms—phenomena at their true value. It is well enough to say that the physician should be calm—always cool and self-possessed. Let any man undergo this experience, and then, and not till then, will he understand the situation. The confusion of all parties around the table is a fit type of what is going on in the head and heart of the attending Physician.

Annoying as ether is, we had better bear with it—its slow action, the large quantity required, the troublesome excitement, the great muscular resistance—than to subject a patient to the hazards of Chloroform. It can not be forgotten that the patient or his friends always ask the question, just before the administration, "Is there any danger, Doctor?" and for reassurance—reassurance to himself as well as to the patient—that question is answered in the negative. Is there any advantage in the mixture of Ether and Chloroform, or in that trinity, Alcohol, Chloroform, and Ether? Doubtful. The argument seems to be in favor of combining a cardiac stimulant with a cardiac sedative; but does the practice justify the theory? It is not the quantity administered, nor the manner of its administration, which makes Chloroform dangerous, but because that day and that hour, it may be that moment, the heart is fatally susceptible to its influence—it asserts itself; and if the heart is struck when in this condition it will be paralyzed by the Chloroform in the mixture as certainly as if administered by itself, for it must be admitted that it is not the Chloroform, but the state of the system, which no man can discover, which precipitates the fatal result. Patients who had frequently been narcotised with it, have died before taking a dozen inhalations. One lady who had taken it in all her labors (eight), and who, on one occasion, had been kept under it for twelve consecutive hours, died in a dentist's chair, not from long continued sleep, but after a few inhalations—not more than half a dozen. The anæsthetic found her in that fatally susceptible condition.

Napoleon III. died in a fatal faint—he was anæsthetized for Lithotrity;—was not that a Chloroform death? Sir Henry has not been heard on this question.

The physiological action of other anæsthetics has not been so well studied as that of Ether and Chloroform. Bichloride of Mytheline for its first victim struck a man, so far as could be determined, in absolute health, except a local trouble —iridectomy.

It is in such, or in operations for convenience, which make a death so distressing.

In an emergency, when a man must die without an operation, anæsthesia is imperative, and a death from it is easily forgiven. But a man who was walking among his friends yesterday, and concludes to have a small tumor removed, or a fistula slit, or a hemorrhoid ligated, and under that operation he dies, the experience is disagreeable to all parties, or rather to the survivors. After losing one, or certainly two, the Physician is disposed to think, that anæsthetics should be given in major not minor cases. W.W.D.

Cincinnati: Third and Broadway.

"AN AMERICAN MEDICAL COLLEGE."

RUSHVILLE, MO., December 18, 1882.

Editors Lancet and Clinic:

While the "Bellevue Medical College" question is still fresh in the minds of the people, I wish to call to memory the name of another institution said to exist in Cincinnati.

The law compels every physician who practices in this State to register. Now a man by the name of B. W. Culver, who practices medicine in Buchanan County, this State, has registered at St. Joseph as having graduated at the "American Medical College" situated in Cincinnati. He states in an interview that he graduated in the year 1857, but does not give the names of any of the faculty.

As I was a citizen of Cincinnati for a number of years and was not aware of any such an institution existing in the city, I would be pleased to have you investigate the case, if not too much trouble, and make known the result of your investigation in the LANCET AND CLINIC.

Yours truly, W. SCOTT MORRISON.

[We have made inquiry as to the "American Medical College" of Cincinnati and find that there never at any time existed an institution of that name in this city. Diplomas bearing such a title are fraudulent.]

MR. S. S. BASSLER, late of the Signal Service Corps, will read a paper on the subject of "Weather Predictions, its Methods," etc., Jan. 2d, 1883, before the Cincinnati Medical Society. The profession is invited.

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Cincinnati, December 30th, 1882.

The Week.

TO OUR READERS FAR AND NEAR WE WISH A PROSPEROUS, HAPPY NEW YEAR.

1883.

MOST of our readers are making up their lists of periodical literature for the ensuing year. We have practical evidence that the friends of THE LANCET AND CLINIC are growing more and more numerous and to stimulate the affections of each member of our guild, we will send the journal to one old and one new subscriber one year for $6 00. This makes THE LANCET AND CLINIC very much the cheapest medical journal published.

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THE LANCET AND CLINIC and *Obstetric Gazette* to one address $5.00.

——NOW IS THE TIME.——

THE LIVER-FLUKE.—Mr. A. P. Thomas was appointed by the Royal Agricultural Society of England, in 1879, to make investigations as to the source of the liver-fluke. Sheep were especially liable to the disease when fed on low lands which were overflowed during high water. From the *Medical Press* we learn that Mr. Thomas made a careful report of his investigations and discoveries to the Royal Medical and Chirurgical Society November 14th.

In a low-lying field he found a small crustacean, the *Limnæus truncatulus*, on which he found the cercaria, from which the liver-fluke was developed. "The eggs of the liver-fluke, which was very prolific, passed with the bile into the sheep's intestines, and were dropped over the field. If the ova were dropped into the water or were washed into a ditch, development proceeded." The embryo, after escaping from the egg, would move about very rapidly in the water until it came in contact with the *Limnæus truncatulus*, which it would enter. If it first came in contact with any other snail or body it would not attempt to enter it, but would pass on until it found the right snail. "When it had entered the snail, the body contracted and became elliptical; an outer covering of cells with cilia was formed, and the spots, which the embryo had possessed, became detached. It thus became a degenerate spore-cyst, with a number of germinal cells, which increased in number and broke up into rounded masses, the germs of the second generation." From these germs a *cercaria* was formed which, becoming encysted on grass, was devoured by the sheep.

Mr. Thomas said that a solution of 0·75 per cent. of salt killed the snails. It could be scattered over all spots infested by the worm, and was otherwise beneficial to the sheep.

Thus has the life history of another one of the parasites been discovered and its dual life traced. Now that the source of the disease is certainly known, the remedy can easily be applied. Prophylactic treatment is the scientific way of meeting disease.

The members of the Cincinnati Board of Health, with one exception, have announced their determination to resign. Cause: lack of public appreciation.

Let us give thanks, hoping the good work in that direction may continue to the end, and that our city may be relieved from the administration of men of such ill-repute.

Selections.

MEDICINE.

Therapeutic Value of Hyoscyamia.—A writer in the London Lancet says: "No man who has ever used aconitia for the reduction of temperature will go back to the tincture, Fleming's though it be, or any crude form of the drug; and he who has not used hyoscyamia in troubles of the hollow viscera—stomach, bowels, bladder, etc.—has yet to experience the satisfaction and joy with which he will be greeted after prescribing it for a patient with spasm, retention, dysentery, or hernia; for this last is often spared the surgeon's knife by this beneficent drug."

Diagnosis of Spurious Heart Murmurs.—Dr. Rosenbach (*Transactions of the German Medical Congress*, 1882) recommends the following simple procedure to determine the pneumocardial nature of any murmur: Firm pressure is made with the tip of the finger in an intercostal space at the point of maximum intensity of the murmur. In this way the portion of lung in which the murmur is produced is pushed away from the heart, and the heart itself, is also pressed back, and is prevented from transmitting its pulsations to the lung with force sufficient to give rise to a murmur. The spurious, extra-cardiac murmurs are thus greatly weakened or entirely suppressed, while no effect is produced upon the true cardiac murmurs.—*Medical Record.*

New Treatment of Chronic Eczema.—One of the most eminent French practitioners gives his experience of a simple palliative remedy for chronic eczema, viz., oxide of zinc, the same having acted magically on more than one inveterate case, and must therefore be considered a great boon in relieving that most unmanageable disease. In a notable instance, when everything, internally and externally, had been tried in vain, to mitigate the burning pain, finally resort was had to an application of oxide of zinc, four drams, rubbed up with eight ounces of water, together with one dram of Scheele's hydrocyanic acid; this gave instant relief—and, in fact, the pain of weeks was suddenly cured. The hydrocyanic acid is not, however, indispensable.

Pathogenesis of Abdominal Typhus.—The author, Dr. Maragliano, examined some blood that was taken from the spleen of typhoid fever patients (by means of a syringe for that purpose) as well as some blood from the general circulation taken from the finger-tips. In both instances examinations were made with great care. The observations were made during the years of 1881-82 on a series of fifteen cases with the following results:

During the period of culmination of the disease specimens from the general circulation contained distinctly isolated and rolls of micro-organisms. These consisted, almost without exception, of homogeneous round bodies with a very delicate contour and were analogous to micrococci. In specimens of blood from the spleen the author found, besides the spheroidal organism already shown to exist in the general circulation, a peculiar rod-shaped organism very similar to those described by Klebs and Ebert, only that the last named are few in number compared with the former. During convalescence these micro-organisms disappeared not only from the general circulation but also from the spleen. If the patient had been treated by large doses of quinine these bodies disappeared almost entirely from the blood.—*Deutsche Med. Zeitung.* C.W.T.

Syphilis and Skin Diseases.—September 4th Martineau and Hamonic reported to "Académie des Sciences," with regard to their experiments on the bacteria of syphilis. If their observations can be verified and substantiated, they will be of no little importance, if for no other reason than the proof of the inoculability of syphilitic virus on animals. In the first experiment, H. excised a small hard chancre from the labia minora of a female, and placed it in a solution of beef extract that had been carefully prepared for the purpose of cultivating bacteria. After a few hours the solution began to get turbid and throw down a few isolated flakes; while later there was a distinct gray precipitate visible at the bottom of the vessel. The following morning a few drops of the beef solution were put under the microscope. This examination showed the field to be full of living bacteria, of about the length of the diameter of a blood corpuscle, moving around two by two, (— —)or four by four (= =) occasionally taking the shape of a right angle.

By the action of methylamin violet the bacteria were colored while alive. The following day (May 1st) two injections were made in a pig five months old, with the fluid in which the chancre had been placed by means of. "Pravas" syringe. The injections were made into the subcutaneous tissue of the belly. Twenty-four hours later a sample of blood taken from the animal showed the characteristic rod shaped bacteria under the microscope. Three drops of blood was a sufficient quantity to cause a new production of bacteria in a fresh solution of beef extract. After the expiration of thirty days, a peculiar red papular exanthem appeared, first on the belly, then around the anus and later on the back and inner side of the legs. In the region of the eruption the bristles could be plucked out very easily. Under the skin of the penis a small-hard tumor about the size of a hazelnut could be felt, which was very painful on pressure. In the course of time the growth became more superficial, and gradually assumed the appearance of an indurated ulcer with a red dry and glistening base.

An indolent swelling of the inguinal glands was observed at the same time. The second experiment presented similar results; but in this instance pus from an indurated chancre was used, and the skin of the penis of a young pig was inoculated with it. The blood which was perfectly free from bacteria upon the inoculation now contained the characteristic bacteria, which again were used for the process of cultivation. In the course of nine days an induration was observed in the region of inoculation. After fourteen days a papulo squamous eruption was seen first on the belly, but later it spread over the thorax, ears, neck and legs, and assumed a very red coppery color. Some of the papules were excised and examined for bacteria, but the investigation showed nothing.

The blood, after expiration of four weeks, was perfectly free again of bacteria. After nine weeks all symptoms had entirely left. An effort was now made to inoculate another pig, a goat, and a monkey with the bacteria cultivated from the blood of the first two pigs, but these experiments were not successful.—*Deutsche Med. Zeit.* C.W.T.

THE PULMONARY CIRCULATION.—Most medical writers of the present day assume that the pulmonary circulation is under the influence of the vaso-motor nerves. Some physiologists are, however, less assured of the existence of such nerves; and a considerable amount of experimental evidence has been brought forward to prove or to disprove this important point

For the proof,. Badond(*Verh. der Phys. Med. Ges.*, Würzburg, N. F., vol. viii) had brought forward the fact that the blood-pressure in the pulmonary artery is diminished by section of the medulla, increased by its faradisation; Lichtheim (*Die Störungen des Lungen Kreislautes*, etc., Berlin, 1876), that the pulmonary pressure is increased by dyspnœa when the aorta has been closed, while the carotid shows no increase of systemic pressure.

On the other hand, Zuntz (Pflüger's *Archiv*, Band xvii) had failed to convince himself of pulmonary vaso-constriction; and Walter (Du Bois-Raymond's *Arch.* 1878), under Ludwig's guidance, had come to the conclusion that the increase of pulmonary blood-pressure consequent on medullary faradisation is only seondary to the constriction of systemic vessels, and independent of any pulmonary vaso-constriction.

Th. Openchowski has methodically examined the whole question, under Stricker's guidance ("Ueber die Druckverhältnisse im Kleinen Kreislaute," Pflüger's *Archiv*, 1882, p. 233). His experimental discussion appears as satisfactory as the case will admit; the problem being to decide whether the increase of pulmonary blood-pressure by medullary excitation is due to the obstacle of a pulmonary vaso-constriction, or to the expulsion of blood by systemic vaso-constriction, or to the obstacle constituted by an insufficient left heart. To prove the first supposition, it would have been necessary to demonstrate an increased pressure in the pulmonary circuit in the absence of increased pressure in the systemic circuit. Lichtheim attempted this by ligature of the aorta; but the increased pressure consequent on dyspnœa, which he saw, might quite well have been due to systemic vaso-constriction; and, in effect, Openchowski found, under these conditions, that the pulmonary increase never occurred without simultaneous (or, more correctly, antecedent) systemic increase; and that previous section of both splanchics prevented the increase both in the aortic and in the pulmonary systems. Conversely, he found that excitation of the splanchnics, or merely pressure on the abdomen, raises the blood-pressure in the lower circuit. All these facts argue that the increased pressure in the lesser circuit is passive—a mere engorgement due to the expulsion of blood from the greater circuit. Against the possibility of the pulmonary engorgement being due to the obstacle caused by a congested and inefficiently beating left heart, the author observes that the pressure is much greater in the pulmonary artery than in the left auricle; and that, therefore, the former pressure cannot depend on the latter by any retrograde influence. This observation applies to the dog, on which animal the author's experiments were exclusively made. It shows clearly that the engorgement of the left heart, which in the rabbit is so great as to bring the auricle to a standstill, is not the essential factor of the increased pressure, since the latter can occur as well without as with that excessive engorgement. The conclusion that can be legitimately drawn from the above experiments is, that an action of vaso-motor nerves (and therewith their existence) in the augmentation of pulmonary pressure by medullary excitation, whether by dyspnœa or by faradisation, is not at all proved, but to a great degree disproved; and, until their existence is proved, they must be considered as non-existent.—*British Med. Journal.*

MISCELLANY.

ON THE CONDITIONS OF THE NERVOUS DISCHARGE.—By Charles Mercier, M. B. (Lond)., F.R.C.S., and published in *Brain*.

The endeavour to fix with precision the conditions of the nervous discharge, is encountered at the outset by the almost overwhelming difficulty that there are no means of making a direct estimate of the discharge, The only way in which it is objectively manifested is in the resulting muscular contraction; and all reasoning on the subject, in fact the whole science of neurology, is founded on the assumption that the muscular contraction represents quantitatively the nervous discharge which gives rise to it. In spite of the exigencies of scientific method, which forbid us to postulate that which is capable of proof; and in spite of the immense, the fundamental, importance of this principle, it still remains a pure assumption. The first step in the investigation of the nervous discharge must be, therefore, to discover whether there is indeed any constant adjustment between this discharge and the resulting contraction, and to determine if possible the relation between them.

Now the muscular contraction is a very complex phenomenon, comprising electrical changes, changes of configuration, thermal and chemical changes, besides the mechanical effect which is the main element; and this mechanical effect may manifest itself in various ways. It may take the form of velocity of movement, or that of overcoming resistance, both of which may however be estimated by the Work Done; or it may take the form of sustaining a weight without movement, in which case it cannot be so estimated. The whole of the changes in acting muscle cannot be expressed in any term less general than that of energy. The changes are all manifestions of energy, and in almost every case there is a liberation of energy by the muscle.

Of the nervous discharge, on the other hand, it is as yet undetermined whether it is an electric change, or a chemical change, or some other change of molecular configuration, or whether it is a combination of some or all of these, or whether indeed it is not some form of energy with which we are as yet unacquainted. All that can be positively stated is that the nervous discharge is a liberation of energy in some form. Hence it is obvious that the connection between the nervous discharge and the muscular contraction can at present be formulated in terms of energy only, that being the highest common term. And since, while we postulate some connexion between the nervous discharge and the resulting contraction, we are so far ignorant of the manner in which they are connected, we are warranted in formulating the most general term in the most general manner only. Such a formula may be expressed as follows:—The amount of energy liberated in the nervous discharge is, *cæteris paribus*, proportionate to the sum of the different forms of energy liberated in the muscular contraction. It is not said that the amount of energy liberated by the nervous discharge is *equal* to the amount liberated in the resulting contraction. It is certain they are not equal. The statement is that the amounts of energy liberated in two nervous discharges bear an equal *ratio* to the amounts liberated in the resulting contractions; or if a and b represent two discharges, A and B the contractions resulting; then is $a : b$ as $A : B$. It is evident that the formula will be true only under the restriction of other things being equal, for a feeble or exhausted muscle will need a greater nervous discharge to elicit a given mechanical effect than one that is fresh and vigorous.

It has been approximately proved by physiologists that in similar contractions the thermal, chemical, &c., effects bear a constant ratio to the mechanical effect, and as the mechanical effect is the one in which alone we are directly concerned, the formula above given may be rendered a degree more precise by substituting the mechanical for the total effect of the contraction. It will run as follows:—*The amount of energy liberated in the nervous discharge is* cæteris paribus *proportional to the amount of energy manifested in the mechanical effect of the resulting contraction.*

This being the most precise formula which it is possible to construct synthetically, let us now apply it to observed phenomena and see if they are consistent with its negation. Take the simplest possible case of determinate movement, of movement that is, which is determinate in direction, in extent and in force. Every such movement requires the co-operation of at least two muscles. It may at first sight seem that the simplest movements, such as the raising of the upper lid, the turning of the eye to one side, or the depression of a finger, are due to the action of a single muscle only. But this is not so. It has been shown by Duchenne that in order to produce a determinate movement, not only must that muscle or set of muscles act which tend directly to produce the movement, but that muscle or set of muscles which tend to produce the opposite movement must also at the same time be in action, in order that the movement may be even, orderly, and not excessive. It is evident that were the external rectus muscle of the eye, for instance, to act alone and unchecked, it would have but one movement,—to evert the eye to the extreme extent and within certain narrow limits of rapidity. For all intermediate rates and positions, and for the orderly attainment of the position of extreme eversion, it must be balanced and regulated by the simultaneous action of the internal rectus, the visible result being the difference between the actions of the two muscles. This arrangement was aptly called by Duchenne the Principle of the Harmony of Antagonism. It is perhaps most obvisously displayed when a muscle or set of muscles is paralysed, the antagonist set being intact. If a patient under such circumstances make a violent effort to perform the movement which would normally be made by the paralysed muscles, the movement which results is the direct antagonist of the movement attempted. If, for instance, a patient with double facial paralysis make a vigorous effort to shut the eye, the result is that the lids are more widely opened. The reason is, of course, that the contraction of the antagonists, which under normal circumstances would moderate and render even that of the primary set, is now unopposed and produces actual movement; and not only do the antagonists produce a movement instead of balancing its opposite, but the movement so produced, being unbalanced, is tremulous and irregular. Another proof of the necessity of the action of two opposing sets of muscles to produce a determinate movement is seen in the inability of a patient with dropped wrist to clench his fist. This striking illustration of the principle of Duchenne has been often demonstrated to me by Dr. Hughlings-Jackson.

It may be objected that the arrangement in question, by which a movement cannot be produced by a single contraction, but must be the differential result of the actions of two muscles pulling in opposite directions, necessitates a waste, a squandering of force, which is quite out of harmony with the rigid economy generally prevailing in natural operations, and which is *prima facie* evidence against it. There would be much cogency in this objection were the above a complete statement of the process; but it is not. It is of course evident that two opposing sets of muscles cannot contract simultaneously. When movement occurs, one set of muscles contracts while the antagonists set elongates, and what the principle requires is not that a contraction of the antagonists shall be overpowered by a stronger contraction of the primaries, but that the elongation of the one set shall be proportionate to the velocity, force, and extent of the contraction of the other. Now physiologists have proved that when a muscle is weighted to a certain extent—over-load—and its nerve is then stimulated, the muscle, so far from contracting, *actually elongates*, and the stronger the stimulus sent through the nerve, the greater the extent of the elongation. This, which occurs when an over-loaded muscle receives a powerful stimulus, may well occur also when a muscle loaded to a moderate extent receives a very faint stimulus, and should this be found to be the case, it will be a strong corroboration of the truth of the principle of the harmony of antagonism. Meanwhile that principle is the theory in possession, and the onus of disproof lies with its opponents.

Every determinate movement, then, requires the co-operation of at least two muscles, and each of these muscles must act to a determinate degree, with determinate force, for a determinate time; and the amounts of the force, degree, and time of the action of the one muscle must bear a determinate ratio to the amounts of the force, degree, and time of the action of the other. But these determinate actions in determinate ratio are themselves determined by the nervous discharges to the several muscles. Therefore if these nervous discharges are not in determinate ratio, then any two discharges whatever to the two muscles will determine the same movement, the same in degree, force, and direction. In other words, only one movement can possibly result from the combined action of two muscles. But, as a matter of fact, the number of movements that do so result is infinite. For to consider extent only, the number of positions intermediate between the two extreme positions to which the part can be moved by the actions of the two muscles or sets of muscles, is infinite. Therefore the ratio which the amounts of energy in the nervous discharges to the two muscles bears to the amounts of energy in the mechanical effect of the muscular actions resulting is not intermediate, that is, it is determinate.

This reasoning, cogent as it is in the case of muscles which are directly opposed in action, becomes much more evidently unanswerable when applied to the cases of muscles and sets of muscles *both* of which contract, producing movement in force and direction the resultant of their contractions.

Taking as a foundation this principle, that the energy liberated in the nervous discharge is proportionate to the mechanical effect of the resulting muscular contraction, it follows that the contraction of a large muscle will require and be set up by a greater liberation of energy in the nerve centre than the contraction of a small one. The centre which represents the movements of the larger muscle must therefore contain a greater store of energy than that which represents the movements of the smaller, and to contain a greater store of energy it must, if both are similarly constituted, be of actually greater size. It is of course not implied that any centre represents a single muscle, nor that the size of the represented muscles, though probably the chief, is the only condition determining the size of the centre, but, generally, that the larger the muscles, the larger the centre representing their movements.

Speaking generally, the largest muscles, and those the mechanical effect of whose contractions is the greatest, are the most bilaterally acting, and, save on the face, the muscles situated most centrally with reference to the mesial plane of the body, and progress from the mesial plane down the extremities to the periphery, progress to muscles successively smaller and smaller, and more and more capable of differentiated movement. It is natural to inquire whether a corresponding arrangement of the gradations of size does not obtain among the representing nerve centres; and a little consideration will show that it must do so. For the order observed by the sets of muscles in their position from the centre of the periphery, in their sizes and in the massiveness of their movements, corresponds also with their order in the process of evolution. In the lowest vertebræs, the fishes, the muscles of the lowest order in the series, i.e. those which are symmetrically disposed immediately about the mesial plane, and have simple and massive bilaterial actions, are almost the only ones existent; and as the appearance of a limb as a whole, precede the differentiation of the limb into segments, so must the development of the muscles which move the limb as a whole, precede the development of those which move the segments on one another; and similarly the develoment of the muscles appertaining to the primary segments must precede the development of these pertaining to the secondary segments.

Pari passu with the differentiaton of seporate muscles out of pre-existing muscular sheets, must go on the differentiation of nervous centres representing the movements of the new muscles, from pre-existing nervous centres representing the movements of the parent sheet; and when the muscular system is complete, the development of finer movements and more delicate adjustments necessitates the further differentiation of yet smaller nervous centres. And as the new muscle or muscular group will always be smaller than the primary muscle from which it is derived, the new nervous centre corresponding will always be smaller than the old one, since the size of the centres is proportionate to the size of the represented muscles. Now what will be the position of the new centres and series of centres thus differentiated? Three positions with respect to the parent centre are possible;—the central, the collateral, and peripheral. The position of the centre cannot be central with respect to its parent, for, setting aside more direct reasoning, were it so—were the new centre to be interposed in the path of the discharge of the parent centre to the muscles—then the discharge of the larger centre must pass through the smaller, which would in consequence also be discharged, hence the larger centre could never discharge without the smaller discharging also, or in terms of muscular contraction, the head could never turn without the eye turning also. Neither can the position of the new centre be collateral, for the space within the cranium being limited, the existing centres must be in opposition, and as the lateral budding of each centre would be opposed by, and meet with resistance from, the lateral budding of surrounding centres, the motion in this, as in all other cases, being in the direction of least resistance, the outgrowth of new centres must in all cases be towards the periphery. Hence, as the order of evolution is from massive movements to fine movements, and from large centres to small, so the gradation in the central nervous system must be from large centres at the base to small centres at the periphery, with intermediate centres intervening.

Of two centres, the smaller will have the greater surface in proportion to its size; that is to say, it will have a proportionately greater number of points at which disturbing agents can act upon it; and hence the same disturbance will act with greater energy upon a small centre than on a large one. That is, the smaller the centre the more unstable it is, other things being equal. But the smaller centre represents the smaller muscle. Hence, when a uniform wave of disturbance passes through the grey matter, the smaller centres will be first discharged, and the movements produced will be those of the smaller muscles. Such a uniform wave is that which accompanies an emotion, and it is an established fact that "it affects the muscles in the inverse order of their sizes and the weights of the parts to which they are attached." Now suppose a wave of a greater intensity. Its effects will differ from those of the former in several ways. The centres that were discharged by the former will be discharged by the latter, and they will be discharged more completely. For in each centre there must be some elements more exposed to disturbance than other; and again, some must be more highly charged, in a state of greater tension than others. These two states being compounded in various proportions in the different elements of the centre, it will result that certain elements will be more prone to discharge, that is, will discharge under a feebler disturbance than the rest, and that there will be all degrees of proneness to discharge according to the strength of the disturbance and the direction from which it comes. A feeble disturbance will discharge only those elements which are the most highly charged of the most peripherally situated. A stronger disturbance will discharge these, together with the less highly charged of the most peripherally situated, and also the most highly charged of those elements next in order from the periphery. So that a strong disturbance will discharge more completely the same centres that were discharged by the weaker disturbance. This I call the spread of the discharge in intention. Next, it will be evident that the same reasoning which applies to the elements in a centre will apply to the centres in a region, and that while a feeble disturbance will discharge those centres only which are the most favourably situated with respect to the disturbance and most prone to discharge, a stronger disturbance will discharge, in addition to these, certain other centres of *the same order* which are either less highly charged, or at a greater distance from the focus of the disturbance, or both. So that a second particular in which the effect of a stronger disturbance will differ from that of a weaker, will be that the stronger disturbance will discharge a greater *number* of centres of the same order. This effect I propose to call the spread of the discharge in the extension. Thirdly, a stronger disturbance will discharge centres of the order next below those discharged by the feeble disturbance. For it has already been shown that the larger centres, having a less area in proportion to their size, will remain stable under a disturbance which will discharge a smaller centre. Hence the third difference will be that the major disturbance will discharge centres of larger size than those discharged by the minor disturbance. I propose to call this effect the spread of the discharge in depth. Summing up these three important differences, we may say that as the disturbance increases, the discharge becomes more powerful, wider and deeper.

This being the process in the nervous centres, when translated into terms of muscular contraction, the phenomena will be as follows. The least discharge will produce feeble movements of a few small muscles, and as the discharge increases, the contraction of these muscles already affected becomes stronger, to them is added the contraction of other muscles of the same order, and this combined effect will be further complicated by the addition of contractions of the muscles next in order of size. It will be apparent that the conclusion thus deductively reached expresses the identical process established long ago as an observed fact by Dr. Hughlings-Jackson in cases of epilepsy, and set forth at length in a previous paper, "On the Phenomena of Convulsion.[1]"

The foregoing reasoning gives an adequate explanation of the Origin and March of clonic centripetal convulsions; and since the conclusions reached follow necessarily upon the assumptions made with regard to the constitution of the nervous centres, and harmonise completely with observed facts, the grounds are extremely strong for believing, first, that these assumptions are true; and second, that convulsions of tonic quality and centrifugal march depend on the discharge of centres arranged in a different manner. Before passing on to this portion of the subject, which will involve the consideration of the extremely complicated question of Pitch, it will be well to touch on certain other elements in the class of convulsions already considered.

The Extent of a convulsion was defined as the degree to which the threefold march had extended, and its index was expressed as the order of muscles which the spasm had reached. Translated into terms of nervous processes, it is evident that the extent of a convulsion depends on its depth, or the spread of the discharge downwards from stratum to stratum of the superposed series of centres. The convulsion of least extent involves only the highest order of centres; that of next greater extent involves this order, and that next below, and so on. Now what determines the limitation at any given stratum in the series, of the process of successive discharges? To answer this question it is necessary to return to the evolution of the nervous centres, and consider an aspect of the process which was for the sake of simplici y not insisted on in a previous page. The nervous centres represent, as is well established, not so much muscles as movements, that is, certain combinations of muscles; and the movements of the great bilateral muscles differ from those of the small peripheral muscles in many respects besides the massiveness which is the most notable distinction. They differ also in precision, in variety, in generality, in complexity and in rapidity, and each of these differences must correspond with and depend on some difference in the structure and arrangement of the corresponding nervous centre, or otherwise we must believe that an effect ensues without a cause. Neglecting for the present the consideration of the other differences, it is manifest that, since each nervous centre represents a movement, variety of movements must necessitate plurality of nervous centres; and the increase in the variety of movements of the muscles from the centre to the periphery of the body must therefore correspond with and depend on increase in the numbers of centres in the successive strata from the lower to the higher, or, in other words, the smaller the nerve-centres, the more numerous are they. Again, the smaller secondary centre being differentiated out of the larger primary centre, and placed peripherally with respect to it, it follows that the discharge of the secondary centre *passes through* the primary centre on its way to the muscles. Speaking generally, the arrangement of the nervous centres which are concerned in clonic centripetal convulsions may be diagrammatically represented by a compound umbel. Now supposing one of the higher centres, represented by one of the small groups of florets of the umbel, to discharge. The liberated stream of energy flows in the direction of least resistance, which is the direction in which it has most often escaped, which is downward through the primary centres to the muscles; or, recurring to the diagram, through the successive stalks of the umbels to the stem. If the liberation of energy be very slight, then it may be entirely dissipated before reaching the muscles. In this case no movement will ensue, but the nervous process may have a subjective accompaniment. An "idea" of the movement may be formed in the consciousness. If the amount of energy liberated be somewhat greater, then it will pass through the subordinate centres to the muscles, and set up in them the movement which the centre represents; but the discharge, being still slight, will pass through the subordinate centre without upsetting its equilibrium. Let the discharge become a degree more powerful, and in its passage through the subordinate centre it will act as a disturbing agent, and set up a discharge therein, resulting in movements of muscles of a lower order, as well as those of the higher. And so with each increase in the draught of energy liberated from the topmost centre, and flowing downwards through successive subordinate centres to the muscles, a centre situated lower in the series is discharged, and the effect of its discharge is added to the muscular contractions previously evoked.

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[1] 'Brain,' October, 1881.

To give a concrete example, movements of the wrist become added to those of the hand, and to these again are successively added movements of the elbow and shoulder. Now suppose that in place of the gradual and orderly discharge which results in normal movement, a rapid and tumultuous liberation of energy takes place in a topmost centre, such as from the severity of the muscular contraction we must suppose the discharge of an epileptic fit to be. In what way will the results of this sudden and excessive discharge differ from those of the normal? The stream of liberated energy will flow downwards towards the muscles as before, and the extra quantity reaching the muscles in a unit of time will produce the excessive contractions of convulsions. Further, the discharge being of high intensity from the first, will rapidly discharge the subordinate centres through which the liberated energy flows. But this is not all. If the liberation of energy is very rapid, it will not all be able to find an escape downward. The downward channel will be choked by the excessive flow, and the energy, still accumulating above, must pass off by the channels of next less resistance. It will pass off laterally, and if the liberation in the centre is rapid, and the intensity of the laterally spreading energy considerable, it will set up a discharge of the collateral centres lying around the original focus in the same plane. Reference to the process of evolution and the diagram of the compound umbel, will show that the discharge of these collateral centres, which of course will primarily flow off downwards towards the muscles, must pass through the same subordinate centre as the discharge of the original focus passes through. The consequence will be that this subordinate centre will receive simultaneously on its peripheral surface the combined impact of the discharges of all its superposed centres, and the resulting discharge of this subordinate centre also will therefore be excessive. It is obvious that the further extension of the spasm must depend on the further extension of this process of excessive discharge. It has already been shown that the extension of the excessive discharge from the original focus to the collateral foci and the subordinate centre, depends on the rapidity with which the energy is liberated in the centre forming the original focus. It is obvious that the rapidity with which the discharge spreads must be due to the same circumstance; hence, if the above reasoning be correct, the Rapidity and the Extent of the discharge must bear a direct ratio to one another. In the paper "On the Phenomena of Convulsion" it was stated as an observed fact that the Rapidity and Extent of convulsions do vary together.

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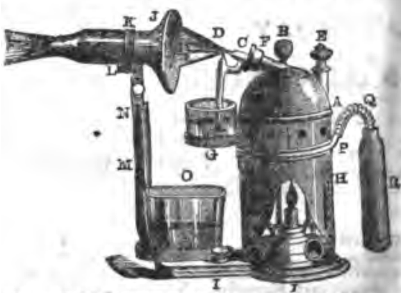

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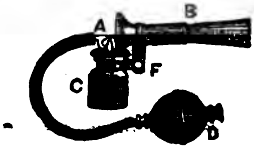

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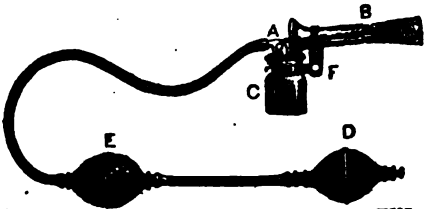

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The attention of the profession and of students is very particularly requested to this term, the advantages of which have been too frequently overlooked.

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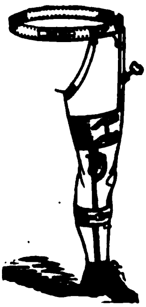

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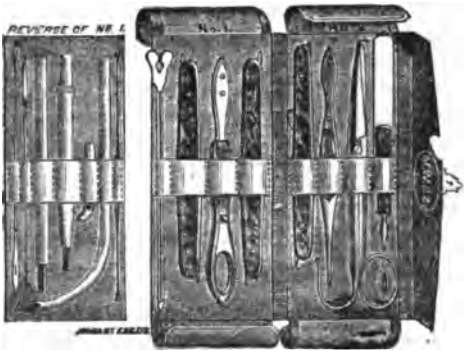

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MEDICAL COLLEGE OF OHIO.

Member of the American Medical College Association.

THE PRELIMINARY TERM begins on the 4th of September, and continues till the opening of the *Regular Session*, on the first Monday of October. Students are earnestly requested to avail themselves of this preliminary course, which is included in the regular fee.

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Each dram of this Preparation contains 1 gr. of Iron, 2 grs. Calasaya Bark, $\frac{1}{100}$ gr. Phosphorus, 1 gr. Coca, 1 gr. Viburnum, with a sufficient quantity of Vegetable Aromatics, Cologne Spirits, Sugar and Distilled Water.

HARTER'S IRON TONIC is a combination of ***phosphorus, calasaya bark, protoxide of iron, erythroxylon coca and viburnum,*** associated with the ***vegetable aromatics*** in a pleasant and agreeable form, which has been so long ***a desideratum with the medical profession.*** It is pleasant and agreeable to the taste, having none of the inky flavors so peculiar to other preparations of Iron. In a low state of the system it will be found particularly efficacious.

Iron restores color to the blood, and the ***calasaya*** gives a natural healthful tone to the digestive organs. ***Phosphorus*** is a mild stimulant to the brain and nervous system, with especial action on the kidneys, bladder, and organs of generation, both in the male and female. The ***erythroxylon coca*** is a powerful nervous stimulant, through which property it retards waste of tissue, increases muscular strength and endurance, and removes fatigue and languor, due to prolonged physical or mental effort.

TO THE MEDICAL PROFESSION.—We will take pleasure in forwarding you free of of charge a sample bottle of the Iron Tonic as a trial, which is sufficient to fully establish its medicinal value.

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The Iron Tonic contains blood making, force generating and life sustaining properties, preëminently calculated to support the system under the exhausting and wasting process of disease, fevers and other acute diseases, and to rebuild and recruit the tissues and forces, whether lost in the destructive march of such affections or induced by over work, general debility in the most tedious forms of chronic diseases. It is friendly and helpful to the most delicate stomach. Does not cause nausea, constipation, or disarrange the digestive organs. Can be taken with impunity by the most delicate lady, infant, the aged or infirm, as by the sedentary student, whose system has suffered from over taxation of the brain; and where there is a fair remnant to build on, will reconstruct the most shattered and enfeebled constitution.

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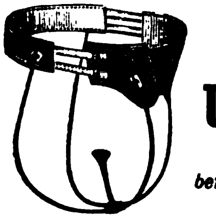

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There are also:

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Private Hospital for the Care and Treatment of the Insane.

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THE chief object of this Institution is to furnish a retreat for that class of the insane whose education, social relations, and habits of life render indispensable more home-like comforts than can be commanded in the public asylums.

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We ask the attention of physicians to this natural combination of the alkaloids of Cinchona Bark, having satisfied ourselves, that it actually possesses the properties and advantages, claimed by Charles T. White & Co., the chemists who manufacture it and brought it to the notice of medical men. It has been long used in hospital, dispensary and private practice, with uniformly good results, the pamphlets they issue giving many testimonials to that effect, from leading physicians in the United States. The experience of these physicians, whose published statements, in regard to its antiperiodic and tonic effects, are so satisfactory, is daily confirmed by letters received from others, who have tested it more recently. In addition to the data given by them, we have received from our representatives, who come into personal contact with so many doctors all over the United States, most convincing proofs of the admirable therapeutic results, arising from its administration, the claim being urged positively, that, grain for grain, it is as efficient as Sulphate of Quinine, with the advantages of not being nearly so apt to induce cerebral excitement, and of proving more lasting in its antiperiodic influence, a superiority always claimed for the mixed alkaloids and bark, over the single salt, and, we believe, deservedly. So confident are we, of the great value of Quinquinia as manufactured by this firm, that we have secured their entire product, believing that as soon as its merits are generally known, it will be preferred in a large majority of cases to Sulphate of Quinine or Cinchonidia, being, at least, their equal in therapeutic value, with the important advantage, that we shall be able to supply it at a much less cost. Implicit reliance can be placed on its always being furnished of exact strength and uniform quality by the chemists who prepare it, the entire line of chemicals they manufacture being unexcelled - rarely, indeed, equalled - by the products of any laboratory in the world. We shall be glad to send their pamphlets giving full details of clinical reports, etc., etc., and sufficent of the Compressed Tablets of Quinquinia, to test their merits by actual use, to any physician who may desire them. As we are unable to send the Elixir by mail, we will take pleasure in sending by express a sample of either, with printed matter, etc., to physicians who will pay charges.

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BEEF PEPTONOIDS.

A Concentrated Powdered Extract of Beef, Partially Digested and Combined with an Equal Portion of Gluten.

We have pleasure in presenting, for the consideration of the Medical profession, "BEEF PEPTONOIDS." We consider this product the most valuable that ever emanated from our Laboratory, and we feel confident it will be welcomed by the Profession in all parts of the world.

BEEF PEPTONOIDS contains *only* the *nutritious portions* of the beef. It contains *no water* and *no inert matter* of any kind. We combine the dry Extract of Beef with an equal *portion* of Gluten to prevent a tendency to deliquescense, and in order to present the preparation in a powdered and portable form. It is well known that Gluten is the most nutritious substance found in the Vegetable Kingdom, and in nutritive elements is closely allied to Beef.

Four ounces of BEEF PEPTONOIDS represents as much nutritive and stimulating properties as forty-eight ounces of the best lean Beef.

Four ounces of BEEF PEPTONOIDS contains more nutritive elements than ten pounds of any extract made by Liebig's formula, and from four to six times more Albuminoids and Fibrinoids than any Beef Extract ever offered to the Medical Profession.

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BEEF PEPTONOIDS *is much less expensive than any other preparation in the market, as it contains neither water nor inert matter.*

The favor our preparation of BEEF PEPTONOIDS received at the hands of DRS. AGNEW, HAMILTON, BLISS, REYBURN, WOODWARD, BARNES, &c., the corps of eminent physicians, who employed the preparation with so much advantage in the treatment of the late PRESIDENT GARFIELD, proves conclusively its great value, not only as a food to be taken by the mouth, but also, how important an agent it has been found in feeding by the Rectum.

Please refer to the very able article of DR. D. W. BLISS, in the New York *Medical Record*, July 15th, 1882, in which he so frequently refers to BEEF PEPTONOIDS, having been used to so great an advantage, not only in the case of the late PRESIDENT GARFIELD, but many others as well.

We employ a reliable and experienced person to select the Beeves before they are slaughtered, and to superintend the killing and dressing. Great care is exercised in this respect, and none except the most healthy and suitable beeves are employed in making our BEEF PEPTONOIDS.

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Ex-President Medical and Chirurgical Faculty, Maryland, and Baltimore Academy of Medicine; Vice-President American Gynecological Society.

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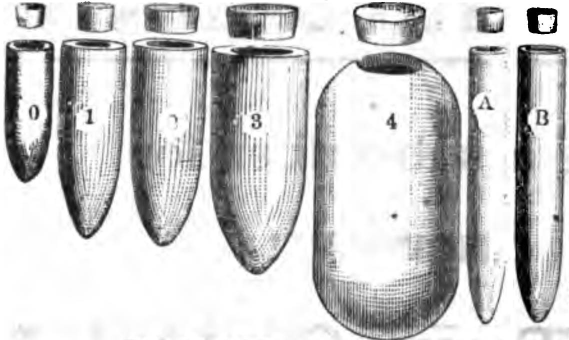

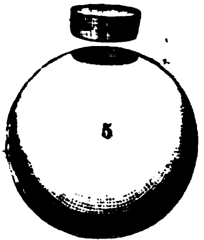

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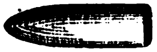

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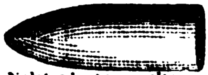

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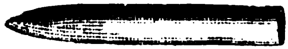

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